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TREATMENT OF MEADOW AND PASTURE LANDS.

In the February number of the *Valley Farmer* we gave full directions for seeding meadow and pasture lands with the various grasses commonly cultivated in the West. We now propose to say something upon the subsequent treatment of these lands and the rotation of crops usually adopted by our best hay growers, in subduing the wild growth that often infests our Western meadows, preparatory to seeding again with grass.

As we have said before, in sowing meadow lands, the soil should not only be thoroughly pulverized to a proper depth, but the surface should be left smooth and even, so that whether the mowing be done with the scythe or mowing machine, the grass may be uniformly cut. The old adage, oft-repeated by farmers, that in cutting grass "an inch at the bottom is worth two at the top," does not always hold good in all kinds of grass. An inch at the bottom may weigh as much as two at the top in market, but as hay it is coarse and hard, and contains but little nutrition as food for animals and therefore adds nothing to the real value of the hay, while too close cutting often does the meadow great injury, particularly if dry weather follows, as it often does about the season of mowing.—If the surface of the meadow is left in a neat, smooth, farmer-like manner, the mowing may be done, leaving a uniform, moderately short stubble, that will protect the roots of the grass so suddenly exposed to the scorching rays of a mid-summer sun.

When meadow lands are not carefully prepared, leaving a rough, broken surface, great injury is often produced by cutting, particularly with a machine, below the crown of many of the

plants upon the rough projecting points of the surface of the meadow.

Another great injury is often done to meadows from the practice common among many farmers of turning stock upon them too soon after the hay has been removed. Cattle should never be turned upon a mown meadow until the grass has had time to renew its growth sufficiently to afford a full bite for them.

Meadows are also often injured by suffering cattle to run on them in times of heavy and continued rains, or in winter, while the surface is rendered soft by thawing rains or melting snow, thus poaching the soil and leaving the surface too uneven for the successful operation of the mowing machine, and entirely killing much of the grass.

Meadow lands would be much improved, and the succeeding crop of hay greatly increased by a top dressing of compost, a deposit of which should constitute one of the established departments of every well conducted farm. Every ton and a half of hay removed from an acre of land, takes from it so much of the *life-blood* of the soil, which if not returned in manure in some form, is so much of the capital stock of the farmer sunk.

Plaster of Paris, at the rate of 100 lbs to the acre is an excellent application to meadows of certain soils, and leached ashes are good on all soils. Ashes in the eastern states now command \$4 50 per ton, for the use of wheat and grass lands. Compost may be applied immediately after mowing, or late in the fall, or the compost, ashes, or plaster will answer well if applied early in the spring.

IRRIGATION is but little practiced in the United States, and its advantages but little understood and appreciated. In older countries it is practiced to a great extent and with astonishing

success. Irrigation and underdraining, we regard as the means through which the next and most important improvement in American agriculture is to result. Experiments in these branches have been made by some of our most progressive farmers with the most satisfactory and profitable results.

The acquisition of California, and our more familiar acquaintance with the agriculture of Mexico will tend to throw much light upon the value and importance of irrigation. There are thousands of acres of meadow land, situated upon the borders of our Western rivers, and below the neighboring bluffs and hills from which gush never failing streams of water, which could be conveyed upon these meadows at comparatively little expense and to the greatest advantage.

In the volume of the Transactions of the New York State Agricultural Society, for 1854, Mr. G. W. Coffin of Dutchess county, who received the Society's premium of \$30 for the second best conducted farm, in the State, makes the following statement in regard to irrigation:—"There is," says Mr. Coffin, "a never failing stream of head water running through the middle of my farm, from north to south, a distance of one hundred and thirty rods, and in that distance falls sixty feet. It is taken from its entrance on the farm, and conveyed to an open ditch along the sloping grounds that descend towards the natural stream, and turned out so as to spread over about five acres of meadow. These meadows are near the barn, and are stocked down in the fall and spring till they exhibit a prospect of no great yield of hay. The water is turned on generally the first week in April, and changed from week to week, to different places, until the forepart of June, when it is allowed to spread out upon a pasture lot. So enormous has the growth of grass become by the last of June, that we often cut the heaviest portions and secure them before the month is out. *Three tons per acre have been cut from the watered portions, while that adjoining, without water or irrigation, would scarcely yield a ton, though the soil and grass were of the same nature.*"

In the same volume of the New York State Agricultural Society, the Executive Committee of the Society in their annual report to the Legislature, upon the subject of irrigation remark: "The importance of giving more attention to irrigation is being appreciated. The address of our late President called the subject before the public, and the returns received at the rooms of the Society, show that we have facilities

throughout the State that could be brought into requisition at comparatively little expense, to manifest advantage of the farming interest. A very intelligent farmer, in urging this subject upon the attention of the Society, remarks: "I am satisfied that not one farmer in a thousand, throughout the United States, knows but very little of the advantages of irrigation. It is now about four years since it occurred to me that I could do it to advantage upon my farm; a stream of water and about thirty acres of my farm being convenient and suitable for that purpose. It is sufficient to say that I lost no time in making the experiment, and the consequence is, that the yield of my grass and hay crop from these lands has *more than doubled*, and much upon the gravel soil, *four times told more than ever before*. I have learned much by experience, how and when to apply the water, and thereby have increased the quantity of the grasses, if not improved them to a considerable extent. From my irrigating pond I get about two hundred loads of wash or sediment, annually to put upon my uplands. This with a peat swamp and my barnyard manures, answering for me instead of guano, &c. My doctrine and practice is, to husband and apply the manures upon my farm, as most economical and profitable, and which can always be depended upon."

Under the great heat of our Western sun, our meadows never become so permanently and compactly set with grass as they do in a colder and more natural climate, and hence our meadows would derive comparatively much greater benefit from irrigation.

We wish that some of our careful Western farmers, who have streams at command would make a thorough experiment of irrigation upon their meadows and report to us the result.

By cutting a ditch at the foot of a hill from which water issues and extending it along the border of a meadow and just above its level, the water may be drawn from any portion of its length so as to flow over any section of the meadow at the will of the manager.

In England this method of irrigation is practiced to a great extent on many of the large estates.

As we have intimated, our climate is not the most perfectly adapted to the cultivation of the grasses; there is a natural tendency for briars, "*white blossom*" and other wild growth to infest our meadows, which renders a renewal of them frequently necessary. As hay is the primary crop with many of the farmers along our river borders, the crops that come into the rota-

tion for the purpose of cleaning and renewing the meadows, are not such, and in the same order, as would be recommended under a regular system of rotation in *mixed husbandry*, where the greatest *general profit* in connection with the *constant improvement of the soil* are duly regarded.

For the purpose of cleaning and renewing timothy meadows, some of our best farmers break them up as early in the winter or spring as the ground is in a proper condition to work and plant it at the usual time with corn. This crop is followed in the fall with wheat, or it is broken up in the following spring and sown with oats. Some sow their timothy seed at the same time; by this course but little is ever gained, and frequently much is lost. If the sowing of the grass seed is deferred until after the grain is harvested, the ground can again be thoroughly plowed, turning under the wild growth of the preceding summer, and leaving the soil in the best possible condition for the grass to obtain a *clean start* in the fall, and the following harvest will generally yield a heavier crop of hay, than if the seed had been sown in the spring with the wheat or oats. There are but few crops from which anything can be gained by attempting to grow more than one at the same time on the same land. Clover may be regarded as an exception to this rule. But the grasses generally, are while young and delicate, too much overgrown, and the moisture from the soil is too much extracted by the growing grain during the summer, for them to obtain a sure foot hold. If the grass is not set thick, with a good vigorous start, weeds are sure to occupy the ground to the injury of the meadow, from which it can hardly ever recover.

On the rich, or bottom lands, well adapted to the growth of the potatoe, the meadow should be broken up in the fall or during winter, and may be planted to the best advantage with this crop. To put the ground in the best order for resowing, it is well to take off two crops of potatoes, or one of potatoes and one of corn, before it is again laid down to grass.

Orchard grass and clover meadows are much more permanent than timothy; indeed, if the land is rich, and the work of plowing and sowing faithfully done, a meadow with a mixture of these grasses, will yield undiminished crops of hay for a number of years. Timothy makes comparatively little growth after it has been mown, while the orchard grass and clover will often bear a second cutting the same season, and furnish a luxuriant rowen for stock.

Orchard grass is an imperfect perennial, and

the clover a biennial, but the clover in an orchard grass meadow will continue to reseed itself. But for the improvement of the soil it is always best to break up the meadow and bring it in again in a regular rotation of crops. Clover is one of the best renovators of an overtaxed soil, that we have, and it should always be sown in a regular rotation for this purpose, if for no other. By a practice too common among farmers generally, they lose more than they gain; we refer to too closely pasturing their clover in the fall. In order to obtain a luxuriant growth of clover the second season, it should be pastured but sparingly in the fall after the grain crop has been removed, or the stock should be turned off early, so that the clover could make a sufficient growth in the fall to protect it from the heaving effects of the winter frosts. When the grain stubble is left but little disturbed by stock in the fall, it affords an excellent protection to the clover during winter, and the growth the following summer will be double as heavy as when the stock is suffered to run upon it until the ground is left nearly naked. Our fields are but little protected during winter by snow, and when clover is pastured too close in the fall, and particularly the fall after sowing, a large proportion of the roots are drawn up by the frost during winter and entirely killed.

The ill success with which some Western farmers have met in sowing clover, if clearly looked into, could be traced to *too late sowing* and bad management afterwards, and which has led them to abandon its cultivation and to substitute blue grass as a renovator for their open lands. On lands adapted to blue grass there is but one objection to it for this purpose; it requires too long a time for it to become established. If the seed is good it will generally make a very "*sure set*," and will exterminate all wild growth and render the land in the best possible condition for almost any other crop. The abundance of its fine roots which extend to a great depth in the soil makes it one of the best preparations for a good crop of potatoes that we know, leaving the ground in a loose, friable condition during the whole season.

AGRICULTURE is the appropriate employment of declining years; for it may be pursued to the very end of life. Not so with the occupation of professional men, for they will find that when the strength of their days is gone by, that younger and stouter rivals will hasten their descent, as they are traveling the downward slope of hostile rivalry.

PLOWS AND PLOWING.

Of all the implements of agriculture, the plow is the most important. It is the first great implement of the farmer. Without a good plow good plowing cannot be performed, and without good plowing large crops cannot be raised.—Recently these facts have attracted unusual attention; and while astonishing improvements have been made in every variety of agricultural implements and machines, none have been improved more than the plow; yet there is room for still greater improvement. The plow, tho' apparently a simple implement, combines in its perfect construction the most intricate philosophical and mechanical principles. It is said that to the immortal Jefferson, the author of the Declaration of American Independence, this country owes the first correct theory of the plow, formed on these principles.

It is in the form of the mould-board that these principles are embraced, and which constitute the chief difference between a good and a bad plow; nor can plowing be performed with the same plow, with the same degree of perfection in one kind of soil that it can in another.

In the mould-board of the plow are combined the two mechanical properties of the *wedge* and the *screw*. To make a perfect plow the various angles of these properties must be so united as to allow the plow to penetrate the soil to the proper depth, separate the furrow-slice and at the same time elevate, pulverize and invert it in the most perfect manner, and with the least possible resistance.

The angles of a plow intended for a deep soil must vary somewhat from the angles of one required to plow a shallow soil; and to thoroughly pulverize a heavy soil, the angles of the mould-board require to differ from one intended for a light soil. In plowing a light soil, the plow known in some parts of Kentucky as the "Rounder," does most excellent work, but with the same short mould-board, and the same angles and a team which travels with equal pace, in plowing heavy sod land, the furrow-slice would not be simply inverted in its place, but would be thrown forward and outward. From these facts then, it will be seen that a plow intended to do perfect work in heavy sod land requires a longer wedge-shaped mould-board than one intended for plowing light land. Many of the plows made by eastern manufacturers for their heavy sod lands have their mould-boards so long and sharp, that in our western soils the advantages gained by this form are more than overbalanced by the increased friction of the

furrow-slice upon the mould-board. The combined angles of the mould-board should be such as to cause it to wear as uniformly upon its whole surface as possible, otherwise the plow will not scour, and undue resistance will be offered to the draft at the expense of the strength of the team, and the work will be imperfectly done. An investigation into these principles has led to a wonderful improvement in plows within the last quarter of a century. The light, neatly finished plows of the present day are sold at less than half the former cost, and with the same strength of team will do much more work and do it better, so that much larger crops are raised on the same land.

It has been estimated by a distinguished writer and practical farmer, that the advantages resulting from the improvements in the construction of the plows used on all the arable land of the Union are equal to *ten millions of dollars* in the work of teams, and *one million* in the price of plows, and millions of bushels in the aggregate increase of crops by good tillage, annually.

It is through the agency of the numerous agricultural papers that have circulated among the mechanics and farmers within the last thirty years, that these improvements have been brought about and made available to the farmers of the country.

So much has been said in late years upon the importance of "deep plowing," "sub-soil plowing," "thoroughly pulverizing the soil," &c., that it has led to important improvements in cultivation with many of the most intelligent of our farmers throughout the country. The extreme drouth of the summer of 1854 did much to confirm the advantages of this system of cultivation; for in every section of the country where the land was thoroughly broken up and pulverized, and the surface kept mellow through the season of drouth, with the plow or cultivator, the crops suffered comparatively little,—while on lands but half plowed, and the cultivation neglected, the crops were almost total failures.

All soils are not benefited alike by deep plowing, or sub-soil plowing; yet most soils will be improved by it; much depends upon the character of the soil, whether light or heavy, its depth and its tendency to retain water.

Level lands, with heavy soils, can never be productive to their full capacity until by underdraining the excess of water is carried off, however deep they may be plowed; but when underdrained and deeply plowed, their production in many instances have been more than doubled;

but while our country affords so many thousands of acres of unoccupied land it is not expected that a thorough system of underdraining will be generally understood and adopted.

Where the soil contains more water than the thoroughly pulverized and minutely divided particles can hold in a state of capillary suspension, it is injurious to vegetation, for what does not drain off through the soil must escape by evaporation, and the greater the amount that is carried off by evaporation, the colder the soil will be. One soil is no colder than another, only so far as it is rendered so from this cause. Every school-boy knows that if you cover the outside of a pitcher containing water, with a cloth, and keep the cloth constantly saturated with water, the evaporation from the cloth will lower the temperature of the water in the pitcher almost to the freezing point; so on a wet, undrained soil, poorly plowed, the crop cannot flourish until the season has so far advanced that the increased heat of the sun has evaporated the surplus water contained in it. Up to this time the corn has made but little growth, and the consequence is, that it is often overtaken by drouth and the crop cut short. Hence good lands that are either naturally or artificially drained, and the soil thoroughly pulverized, will yield the greatest crops.

As plowing is generally done with the common two horse plow alone, the soil is only pulverized a few inches deep, and below the furrow the subsoil is left hard and compact, and this is rendered more so by the action of the plow and the tread of the horses upon it; below this the roots of plants are not free to run, nor will it admit of the free escape of the excess of water. When heavy rains fall, the shallow, mellow, surface soil is filled to overflowing with surplus water; and in times of drouth the evil is equally great, for all the moisture contained in the shallow, pulverized surface is soon evaporated and the crop suffers in consequence.—But a deep soil, well pulverized, rolled and harrowed, so as to minutely divide all the particles to the depth of a foot or more, may be likened to a moistened sponge; it will contain a large amount of water in suspension, which is given off as the plants require it, and if the surface is kept mellow in times of drouth, there will be a constant circulation of moisture from below, by capillary attraction to the roots of the growing plants. Another advantage is derived in times of drouth from a thoroughly pulverized soil: the atmosphere is suffered to penetrate deeper, and circulate through it, and being condensed by the cooler medium of the soil, communicates

to it its moisture. With a knowledge of these facts the intelligent farmer is enabled to avoid, in a great degree, the evil effects of drouth.

More than a hundred years ago, Jethro Tull, a distinguished agriculturist of England, published a book comprising his theory and practice in regard to the subject of thoroughly pulverizing the soil. So important did he regard this subject, that he contended that a rotation of crops was unnecessary for the improvement of the soil, and that the only benefit derived from manuring was in the division of the particles of the soil which the incorporation of the manure caused,—that the soil contained all the food required by growing plants to an unlimited degree, and that it was only necessary to thoroughly divide the particles of the soil to render this food always available. He applied his system extensively to the cultivation of wheat, and accordingly sowed it in drills and cultivated it with a horse-hoe. So apparent were the advantages of this system made by his practice that it received the title of the Tullian Husbandry, but from long continued practice it was ascertained that this system only rendered the food of plants more immediately available, and that without an additional supply in the form of manure the soil would ultimately become exhausted.

Owing to the cheapness of labor and the high price of land in England, the system of deep and thorough tillage is more generally practiced and its advantages better understood than in our country. The spade is substituted for the plow to some extent on many of the large estates, and to great advantage. So much indeed, that the Tullian system has been revived by the Rev. Mr. Smith, of Lois Weedon, Northamptonshire, England. It is stated that he has grown wheat for nine years in succession on the same land without manure, getting an average of thirty-five bushels to the acre for this whole period, though finally there was some diminution from the yield first obtained. His method is thus described: "He begins by dividing his field into sections of five feet in width. In the centre of each section he drills his seed, in tripple rows, so that between each tripple row there is an interval of three feet left fallow. He trenches the spaces between the cultivated portion with the fork, taking up the soil to within three inches of the wheat. These spaces are kept clean during spring and summer with the blades of a sharp-cutting horse-hoe, and are kept open with the tines of the scuffler. Thus each year two and a half feet of each section of the field are trenched and prepared for the succeeding

crop, while the other two and a half feet are left for the crop at the time growing, so that one half of the land is yielding wheat, and the other half is left fallow in preparation for the succeeding crop."

The kind of plow to be used to the best advantage for the farmer, should be governed by the depth and character of the soil to be plowed. Deep soils that have been subjected to the *skinning system*, that is, cultivated in the same crops for a long series of years without manure, and never plowed more than three or four inches deep, if either artificially drained or naturally dry and well plowed with the double or trench plow, may be rendered almost as fertile as when first brought into cultivation.

The Trench Plow, or as it is sometimes called, the Double Michigan Plow, has two mould-boards on the same beam; the foremost one removes the surface or sod to the depth of three or four inches, and throws it into the previous furrow. The large, or hindermost one follows, raising the soil from the bottom of the first furrow and covering the surface with mellow earth that has never before been exposed to the meliorating influences of the sun and atmospheric gases. This plow, when properly constructed, may, with a double team, be run to the depth of ten or twelve inches, leaving the soil in the most perfectly pulverized condition.

Trench plowing is sometimes performed by running a second plow immediately after and in the furrow of another. This requires an extra plowman and the work is not as well executed as when plowed with the double plow.

In soils of less depth, the sub-soil plow may be used to better advantage than the double plow. This plow follows in the furrow after a common turning plow, loosening up and breaking the sub-soil to a depth of eight or ten inches below the bottom of the first furrow.

The advantages of this kind of plowing, on soils not too wet, are four-fold: First, in times of excessive wet the deeply pulverized soil admits of the speedy passage of the water from the roots of the growing plants. Second: In times of severe drouth, the mellow soil below serves as a reservoir for a large amount of moisture held in a state of capillary suspension, to be given off as the plants require it. Third: A well pulverized soil serves as a medium for the transmission of moisture from the earth, below the roots of the crop, just as water is taken up through a properly prepared sponge on bringing a point of it in contact with water below. Fourth: A well pulverized soil is open to a greater depth to the free admission of light,

warmth and air—three indispensable elements in the growth of plants, causing the roots to descend to a greater depth, beyond the blasting influence of severe drouth; a like advantage is also secured to winter grain and clover, against the heaving effects of frosts.

Another important implement is necessary in thoroughly pulverizing most soils. No plow will perfectly divide the particles of all soils, and to complete the work, the roller or clod breaker is required. These, in their various forms, we shall describe in another number.

POULTRY AND EGGS.

Every family in the country can, with a little trouble, have eggs in abundance the year round. Hens, when properly attended to, will lay nearly as well in winter as in the spring or summer; and there is no domestic animal capable of yielding a greater profit to the owner than fowls.

The *Hen-house* should be warm in winter, with a yard and door on the south side. We have seen persons who fully appreciate good, rich, new laid eggs in winter, and who were able to have ornamental out-houses, finish the whole lower story of the poultry-house with glass windows to admit the rays of the sun in winter; this no doubt adds to the pleasure and comfort of the fowls and increases their tendency to lay; but a more cheap structure may be made to answer all practical purposes. The house should be warm in winter and well ventilated in summer, and should always be kept clean; the roosts should be of convenient size for the fowls to grasp easily—sassafras poles, when convenient, are very good; the roosts and all parts of the house should be occasionally sprinkled with dry ashes or lime to destroy the lice, and a box or two of ashes should always stand in the house for the fowls to wallow in—it is a sure preventive of lice. Fowls infested with lice will never lay well, nor thrive. Lime, old mortar, or pounded oyster shells, particularly in winter, should also be occasionally laid in their way. Warm boxes and nests should be provided, conveniently, but rather secretly arranged around the house, so that the hens shall not interfere with each other.

Feeding.—Grain should always remain within the reach of fowls; they will consume no more when a constant supply is kept before them, than when fed in the usual way, after they get hungry; then each strives to get as much as it can, and thus over loads its crop, to its injury. A change of food, or mixed grain is best for fowls, as it is for all other animals. Cooked

food, such as boiled potatoes, corn meal, corn or other grain, is excellent for chickens, particularly when it is desired to fatten them well and speedily.

The only secret of having a full supply of eggs in winter, is to provide a warm house; and in the absence of an abundant supply of insects give the hens occasionally a meal of animal food; any kind of meat, the refuse of the butcher, in pieces so large that they can pick it off at pleasure, or finely chopped, is indispensable to a supply of rich eggs in winter.

In severe freezing weather, like the present winter, chalk nest-eggs, or the porcelain ones now made for the purpose, should be provided for each nest.

Hens treated as we have proposed, can be kept in towns and cities, shut up the year round, and will furnish an abundance of eggs. We have tried it.

POTATOES.

It is comparatively but a few years since Sir Walter Raleigh found the potato in the American wilderness and took home to England a few specimens as a curiosity. He planted them in English soil. How have they multiplied! what a benefaction have they been to the subjects of the English kingdom! How many lives have they saved! How much have they administered to human comfort and support? It has become one of the staple productions of civilized countries; is an article of commerce, and very valuable as an article of diet. Good potatoes should be eaten at least twice a day. There is no more wholesome article of food. They are not very nutritious, and on this account are chiefly valuable. Flour, corn, beans, sugar, and many of our leading articles of food are too nutritious when eaten without some more unnutritious food. The potato, when eaten with other food, affords just the article we want. Many farmers raise too few and eat too few.

They require a rich, but somewhat sandy or silicious soil. We have time and space now only to introduce the subject and give a brief extract from an eastern exchange:

"In the year 1855, a piece of ground measuring 128 rods, or a little more than three-fourths of an acre, was planted with potatoes. The soil was a sandy loam, and had been planted previously with corn. A light coat of manure was plowed in. The potatoes were planted in furrows, made by a one horse plow, about 3 feet one way and 1 foot the other, and six inches deep. Whole medium sized seed was used, and 20 bushels on the 128 rods. They are covered about 3 inches deep with a hoe. When the po-

tato tops were all out of the ground, a plow was run between the rows, and as near as could be, they were covered 3 inches deeper, leaving the ground nearly level, and very few tops in sight. A fortnight after this, they were hoed by hand, solely for the purpose of subduing the weeds. On the 10th of October they were dug, and the yield was 195 bushels. They were mostly large, smooth and sound. The following is the debit and credit of the account:

Cr.	
165 bushels potatoes at 50 cts,	\$82.50
Dr.	
Hauling manure,	\$ 3.00
Plowing,	1.75
Harrowing and spreading	1.00
Planting,	3.00
Cultivating,	6.00
Digging,	12.00
20 bushels seed,	20.00
Manure,	6.00
Interest and taxes,	11.00
	<hr/> \$63.75

Profits, \$18.75

You will see that the estimates for digging, seed and interest, are liberal. It costs some men, for instance, but three or four dollars for digging an acre. Who can say that farming does not pay? A neighbor of mine sold \$210 worth of *early* potatoes from an acre last year."

CORN COBS.

It is the practice in the West, so far as we know, among farmers, to feed their corn in the ear to their hogs and horses, and thus entirely lose the cob. Many of them we doubt not, are not aware of the value of cobs, nor of the importance of having them ground with the corn for feed.

We have just read a statement in one of our exchanges, quite in accordance with our ideas of the value of cobs. It is this: A poor widow, living in the vicinity of a good farmer, had no feed to keep her cow through a cold northern winter. She begged the privilege of picking up the cobs left by the farmer's stock. These she boiled till they became somewhat soft, and slightly salted them to render them palatable. The cow ate them readily, and did finely on them through the winter, furnishing a good supply of milk. Years ago we fed and fattened hogs on cob meal mixed with boiled potatoes. The best pork we ever saw was fattened on cob and corn meal mixed with potatoes boiled. Corn alone is too solid, too nutritious and heating for any stock, even for working horses. It should be ground with the cob and fed in moderate quantities. Much is wasted when unground. The expense of grinding is but slight in comparison with what is lost in the cob and in feeding corn to stock.

CULTIVATION OF HEMP.

Some one asks us to say something on the cultivation and treatment of Hemp. Hemp being one of the great staples of Kentucky and Missouri, we thought every farmer understood its mode of culture.

The chief supply of hemp for Naval purposes in the United States, is derived from Russia.—Recently, efforts have been made by the United States government, to obtain a supply for the Navy from our own soil; these efforts promise to be successful. American water-rotted hemp is ascertained to be superior to that of Russian growth. Hemp of the best quality may be grown in Kentucky and Missouri, sufficient to meet all the domestic and Naval demands of this country, and there is no good reason why it should not be grown, and render us independent of a nation thousands of miles distant. Russia has at this time, and probably will have for years to come, as much as she can well attend to, to defend herself against the encroachments of the combined nations of Europe. It is important, then, that our country should supply its own hemp. But the objection is raised that hemp is a laborious crop to cultivate and prepare for market. The cutting and breaking, it is true, are laborious operations, but we have ingenious Yankees among us, who we predict, will soon furnish machines that will perform both these operations by horse and steam power in the most perfect manner. Amid the great number of labor-saving machines now made available in almost every important department of farm work, we wonder that the hemp cutting and hemp breaking machines are not in successful operation. Hemp has frequently been cut by machinery, and with good success; but the great difficulty experienced, has been in removing the hemp perfectly and expeditiously from the platform. We have in our mind's eye, a plan by which this operation can be performed to the greatest perfection, and we hope soon to see it brought into practical operation.

Col. C. J. Landus, the Government Hemp agent, at Lexington, Ky., has done much to encourage the preparation of water-rotted hemp for the Navy of the United States. Water rotting is a simple operation, only requiring to be conducted with care and judgement. The increased price for which water-rotted hemp sells in market, more than compensates for the extra care and labor in this operation.

Soil and Preparation.—Hemp should never be sown on foul or worn land. Such land will

never yield hemp of a uniform length and quality; but the land should be clean, dry, light and rich; these are requisites that must always be considered, or much labor will be spent in vain.

Hemp is frequently permitted to follow hemp on the same land, when a similar course with almost any other crop would not be tolerated by a good farmer. Hemp is said to be less exhausting to land than the cereal grains, and it leaves the ground in more perfect order for the same crop than any other. If hemp is to be sown on ground that produced hemp the year previous, the plowing should be done as early in the spring as the condition of the land will admit of thorough preparation. Under no circumstances should land for this or any other crop, be worked unless it is so dry as to pulverize well.

If hemp is to be sown on sod land, it should be broken up in the fall. On clover, and more particularly timothy sod, it is better to plant one year in corn before sowing with hemp; if the corn has been well cultivated the land may be put in fine condition for this crop.

In another place we have spoken of the thorough and perfect preparation of land for all crops; our directions in this department of farming may be regarded as *stereotyped* with us; we shall ever continue to enforce them until there is a universal improvement among the farmers in this respect, and for no crop does a thorough preparation pay better than for hemp. The first plowing should be deep, according to the depth of the soil. Let it lay in this condition until about the time of sowing, then it should be well harrowed with a heavy harrow, and then well rolled. The use of the roller, unless upon very mellow land, should be regarded as indispensable in preparing land for this crop. After it is well rolled it should be cross plowed, again rolled and then harrowed. It is now ready for the seed.

Quantity of Seed per Acre.—In regard to this, as in most other crops, there is a diversity of opinions among farmers, but we believe the experience of a majority of them is in favor of sowing from four to five pecks of seed to the acre, according to the quality of the soil—the richer the land the greater quantity of seed should be sown.

The seed should be sown upon freshly harrowed land; after the seed is cast it should be again harrowed and then cross harrowed. If the previous work has been well done, the soil will be open to a free circulation of the warm air to the full depth the land had been plowed,

inviting the roots to penetrate uniformly and deeply, beyond the casualty of drouth.

Time of Sowing.—The time of sowing this crop varies according to the opening of the season and the strength of the land upon which it is to be sown. Strong land will bear the earliest sowing. If sown too early, the growth is apt to be short, if too late, it is at the expense of the quality of the lint. Between the degrees of latitude of 38 and 39, the proper time of sowing will generally range between the 20th of April and the 15th of May.

Raising Seed.—In this connection we wish to say something upon the subject of the kind and quality of the seed to be sown. It is a maxim as clearly established in the vegetable kingdom, as it is in the animal, that *like begets like*. It is important then, that seed should be saved for sowing only from the most perfect plants, that have been well and thoroughly cultivated.

A practice has sprung up among some hemp growers, of saving seed from the crop sown for the lint. Neither the plant or the seed grown in this way can be fully developed, and if continued for a series of years must prove disastrous to the best interests of the hemp grower.

Immense quantities of hemp seed are now grown for feeding house-birds; most of this is saved in the way we have mentioned, and much of it from hemp too inferior to be of value for lint. We have known quantities of this kind of seed to fall into the hands of unprincipled dealers, and to be sold to farmers for sowing, and which resulted in a total failure of the crop.

To raise good hemp seed it should be planted in good, well prepared land, about the first of May, in rows about three and a half feet apart, and two feet in the rows; it should be carefully hoed while young and cultivated through the season as thoroughly as any other summer crop. The plants should be thinned to one or two in a hill, leaving occasionally a staminate (a male plant) throughout the field.

Recently, a new variety of hemp has been introduced into Kentucky, which promises to be of the greatest importance to the hemp grower. It has been cultivated for three or four years in this State, with uniform success. On poor land it grows to the average height of full ten feet; the yield of lint has been estimated to be nearly double that of the ordinary kind. The product of two acres, of the crop of last year, has been stacked with a view to determine the exact yield; we have been promised a statement of the product as soon as it is dressed, when we shall publish it for the benefit of our readers.

The further treatment of the hemp crop, in-

cluding the process of dew and water-rotting, &c., will form the subject of an article hereafter.

BEANS.

In the cultivation of vegetables for food several things should be considered. The first and most important is *health*. If a vegetable is healthy, as an article of diet, it becomes at once important. In these days of physical degeneracy nothing is second in importance to healthy food. We have need to renovate our bodies and give health and strength to our children. Our farmers should be fruitful in the best articles of food. Our gardens should teem with that which is better than medicine. A proper diet is the first essential of health. The second most important consideration is *profit*. If a thing is good in itself and profitable, it should secure much of the attention of the husbandman. No man can be expected to work at an unprofitable business, or to devote much of his land to an unprofitable crop. Things must pay. This is the rule the world over.

How is it in relation to the Bean as an article of culture and food? Is it healthy? Is it profitable? Few crops, we believe, will answer both of these ends more successfully. Wherever the bean has been much used as an article of diet it has proved its nutritious and healthy qualities. In the earlier days of New England it was one of the principal articles of food. It was the staff of life. It was eaten three times a day, and in many families little else was eaten. And a hardier race of men and women has not been reared than those whose childhood and youth was nourished by its healthful qualities. It is still an article much used in the diet of that part of the country. But we are confident that other things less valuable have in a great measure taken its place. It has gone too much out of use. It should be a leading article of diet. If simply and well cooked it is one of the best antidotes to the dyspepsia. The old bean eaters never had the dyspepsia. But people fed on sour bread, hot bread, hard bread, three times a day every day in the year, with a good supply of fat meat, had better look out for the dyspepsia, and if they drink pretty hearty of coffee they must look out for bilious attacks. They had better substitute beans for a portion of such food.

There is no article of our common diet so nutritious as the bean. It furnishes a larger proportion of life sustaining qualities than any other. It has less loss, waste, and innutritious matter. Some authors set down its nutritious qualities

as high as *ninety-five* per cent, while they put those of oat meal at 75 per cent, rye flour at 79, rice 86, barley meal 88, and wheat flour 90.—This is no doubt too high for all these articles. EMMONS' analysis gives the bean 15.1-2 per cent. of water and 16 per cent. of husk, while it gives to wheat flour only 12 per cent of water and but little other innutritious matter. The flour of the bean is probably more nutritious than any of the grains, while in its natural state it has far less husk. The husk and water of the bean is set down by some at 30 per cent, while those of winter wheat are put at 52 per cent.

Prof. Emmons' analysis of the field bean is as follows :

Starch	36.75
Legumen	18.60
Albumin and Casein	9.90
Fibre	15.42
Sugar and extract	7.20
Water	13.25
Total	101.13

This probably, is not far from right. In all the statements which we have seen, which are many, the bean is put down as the most nutritious of vegetables. Aside from its excellent nutritious qualities, it is valuable for the ease and simplicity with which it may be cooked. It requires no fermenting, raising, shortening processes, which harm the qualities of food and add injurious gases and substances to it. Beans stewed in water with a little salt added and flavored after they are cooked with a little butter, are excellent; or boiled or baked with a little pork. We eat them with their coarse, or innutritious matter with them. This is better than to separate the husk from the meat, as is done with bolted flour. Grain had better be eaten with the husk or bran; its nutritious qualities are too concentrated for our powers of digestion. The bean is always cooked with its husk, which makes it very advantageous as an article of food. We require bulk as well as nutrition in our food. Much of our diet is too concentrated. It taxes too much our stomachs and weakens them.

The bean is easily raised, and in this market brings almost twice as much as wheat; and yet it is a much cheaper article of food. The bean crop of the United States is probably between five and six millions of bushels per year, while the wheat crop is more than twenty times that. It ought to be greatly increased. Beans should enter largely into our daily food and our commerce.

We clip the following, on the culture of the bean, from an exchange :

In cultivating the bean, a finely pulverized, mellow soil is very important; and hence, where circumstances will admit, fall plowing and ridging so as to expose the soil to the disintegrating action of the frost, is highly advantageous.—Then in the spring let it be again plowed and cultivated, giving the field a fine tilth. If the land is inclined to wetness, ridging will be of advantage; but otherwise it is as well to leave it of a smooth, even surface. The young shoot is very tender, and the seed is liable to rot in the ground if exposed to cold, hence it should not be planted until the sun has well warmed and fitted the ground for hastening germination. Beans with us are usually planted in hills about two feet apart each way; but they grow equally well in drills, and where the space is limited, this method of planting is preferable, as a greater crop can thus be grown. It is not quite so convenient cultivating them in this manner, but if the ground is properly prepared in the first instance, a horse hoe and accompanying hand weeding will keep the crop free and clean. The crop when ripe is easily pulled, as the fibrous roots perish at the ripening of the fruit; but if the ground is wanted for seeding with fall sown grain, and an early harvest is desirable, the vines can be cut with a scythe or sickle.—They are placed in small heaps to dry, and afterwards stacked with the roots inward, and protected with straw or otherwise. It is a good plan to leave a funnel-shaped opening up the centre of the stack for purposes of ventilation, as it is efficacious in preventing mildew. *

[Written for the Valley Farmer.]

SEED POTATOES.

Having noticed with great vexation since my return to this part of the country, the great deterioration of my favorite esculent, the Potato, will you allow me the privilege of your columns to make known to your numerous readers an easy and quick method of "renewing" or restoring the potato to its original soundness, mealiness, and size?

The plan is this: Keep back some seed potatoes for six or seven weeks after the usual time of planting, say till the last week of June or the first week of July, and then plant and cultivate them the same as stock potatoes. They will grow until the frost withers the vines, when they should be dug. As they have not had time to mature, they will be quite small—not more than an inch or an inch and a half through; but they should all be carefully gathered, and kept safe from frost through the winter, and planted at the usual time of planting in the spring—one of

the small potatoes being sufficient for seed in each hill. The result will be large sized, sound, mealy potatoes, as I have proven by actual trial. I hope that it will be tried by some of our farmers this year.

CHAS. SEAGER.

St. Louis, Feb. 1st, 1856.

[Written for the Valley Farmer.]

CULTURE OF BARLEY.

MESSRS. EDITORS:—

You ask in your last No. if one of your subscribers will not answer for you, the query of an Illinois Farmer, as to the best mode of cultivating Barley. Without pretending to know very much about it, and by no means believing that mine is the best mode, but acting upon the principle, that an interchange of opinion upon all such matters must result in good to the farming community, I offer you my plan or mode of cultivation.

Barley is not considered a certain crop when it succeeds corn immediately; consequently, I have known successful barley growers to have a field, which was intended for it, to grow up in weeds after a crop of corn, and in August, or early in September plow under the weeds for seeding. Though this plan has generally been successful, I have not liked it, for the reason that it takes virtually two years for one crop. I prefer, therefore, to plow under a crop of clover in August or the first of September, and lay off the ground into lands of eight feet and three inches in width, or double lands if I have reliable seedsmen; to sow about the 15th Sept. two bushels to the acre, and harrow with a two horse harrow, both ways. As barley sprouts very readily, the harrowing should be finished as soon after sowing as possible.

After the barley is harvested it should be put in a barn, or securely covered with plank. The straw being so soft and slippery that it will not bear stacking, and the tendency of the grain to sprout with the least exposure to rain, renders protection from the weather indispensable.

If spring barley is to be sown, the ground should be well plowed and harrowed before sowing. The same amount of seed may be used as when sowing the fall crop, though a less quantity, say one and a half bushels per acre may answer. After sowing, harrow both ways as before. In our neighborhood it has not been a certain crop, and its yield not sufficient to justify its being raised constantly. The time of seeding should be early in April.

A SUBSCRIBER.

[Winter barley is frequently sown in Illinois and Missouri in the month of February, or early

in March, and when so sown generally produces good crops, if the season and soil are favorable. We should recommend, however, as a general rule to sow in the fall.]—Eds.

[Written for the Valley Farmer.]

OSAGE ORANGE HEDGES.

I wish, through the medium of the *Valley Farmer*, to obtain some information concerning the Osage Orange for Hedge fencing—which may also be of interest to others of your readers.

Last spring I set out about two miles, and notwithstanding the extreme drouth, was delighted with its growth and apparent success, and fully calculated on continuing to "set out," until my farm was completely hedged in. Late in the fall, however, I had the pleasure of an interview with an esteemed friend, Mr. S. H. McGinnis, of Clay Co., Mo., that discouraged me no little. He considers that he has given it a fair trial, and that it is barely possible that he can be mistaken in his conclusions, that it will not answer for the purpose of farm fencing. I will state as well as I can remember, his experience and his objections.

Some ten or fifteen years ago he set out some fifteen or twenty rods for an experiment. The plants were set in two rows a foot apart in each row—being the same as a single row six inches apart. He cultivated and trimmed pretty much the same as recommended now, and in the course of four or five years concluded he had succeeded beyond his most sanguine expectations—having a perfect hedge some four or five feet high—impervious to any kind of stock. It continued thus for a few years when it commenced "trimming out" (to use his own language), at the bottom. A number of the lower branches died, and in many instances the plant itself died, and when I saw it in November last, it was entirely worthless. He informed me that it was not for the want of proper care, trimming, &c.; that he had continued to nurse it until he was perfectly satisfied that it was useless to give it any further attention. He also informed me that after the hedge was some six or eight years old the growth was so rapid that the labor of trimming, disposing of the branches, lopped off &c., &c., was so great as to deter him from farther experiments, even should the hedge fill the expectations of its warmest admirers.

The above is my recollection of the substance of Mr. McGinnis' remarks upon this (to a great many farmers) important subject. He is known by all who are acquainted with him to be altogether reliable, and perhaps as capable

of testing an experiment of the kind as any man in the State. This is my apology for using his name in this article without his knowledge.—And now the inquiry: Are these views correct? If so, we must conclude that there has already been enough—too many Osage Orange hedges commenced in the Valley. If not, (and they are certainly not intentionally incorrect) I, and I doubt not a great many others would be glad to be assured to the contrary. Let us have light on this subject. The experience of *practical* men, not only upon this, but upon every subject connected with the agricultural interests of the country, is kindly solicited by the proprietors of the *Valley Farmer*, and will be duly appreciated by its readers. Farming implements and labor saving machines, in almost endless variety, together with new varieties of grasses, grains, vegetables, &c., &c., are being paraded before the farming public for their support, a great many of which, doubtless would be useful, and in demand if their merits were known to the husbandman; while it cannot be denied that many are useful only to the *notion maker* and vender; and also that the farming community is considered the legitimate prey of almost all the *humbugs* in the land. Hence the necessity of a free interchange of views and sentiments between the agriculturists of the country.

An article on the subject of stone fencing, from those who understand the subject well, would be acceptable to many here in the Far West,—the best manner of making, the form—that is, the thickness at bottom and top, the height, the cost of making, with particulars, &c.

J. F. F.

Camden Point, Mo., Feb. 1st, 1856.

HEDGE FENCES.

[We lay before our readers the following correspondence on the subject of Hedge Fences. Everything relating to the Osage Orange as being adapted to hedging, will doubtless prove interesting to our readers.]—Eds.

To JAMES MCGREW: *Dear Sir:*—

You are aware that there is now prevailing a growing interest and much anxious inquiry pertaining to the Osage Orange Hedge Fence.

As your agent, I am sometimes beset with questions which I cannot settle with satisfactory exactness. I have frequently pledged for you a readiness to answer all questions for all reasonable information with all the candor and care and accurateness your personal knowledge will warrant.

Our *Valley Farmer* of St. Louis is extensive-

ly read, and as I am agent for it, I make it help me do my talking wherever I go.

Will you please furnish for the March number, and send appended to this letter, your briefest answers to the following questions which meet me frequently.

1st. When the Hedge Fence is completed, and cultivation ended, is there not a tendency to troublesome overgrowing—requiring continuous labor to trim down—entirely equivalent to the renewing annually of a rail fence?

2d. Do you know if it would resist the influence of a flood of water from 3 to 5 feet, for three weeks or more, (such as are apt to occur on the Mississippi and Missouri rivers) and remain uninjured?

LOGAN SLEEPER.

Bridgeton, Mo., Jan. 20th, 1856.

REPLY.

LOGAN SLEEPER, Esq., *Dear Sir:*—

Yours of Jan. 20th, is received, and very cheerfully I give your questions my first attention.

A sufficient reply to your first inquiry will be composed in the following statement of facts pertaining to my own hedge, which can find abundant corroboration among the neighbors.

I have one-half mile which is eight years old. It has grown and been trimmed three summers since it was brought to the point of perfection as a fence.

The whole of last summer was one of unusual thrift in our country for the growth of all vegetation, Hedges, and everything else; I never knew a season like it. The new shoots on this oldest piece of hedge of which I now write, averaged from 3 to 4 feet by the last of June. At that time I trimmed it myself. It required one day and a half of moderate steady work to do it well. The first of October I had it trimmed again. An Irish laborer did it, and charged me for one and a half days work. It was done both times alike, and with a common briar scythe.

This, then, is the extent of the trimming expenses—*three days annually per half mile*,—which cannot be the *minimum*, when the season is considered, nor the *medium*, but rather the *maximum*, the very GREATEST expense that can be required.

To your second question I can only say, that I would not undertake to grow a hedge on lands that would overflow to a depth exceeding three feet, and in no case where a *strong current* of water flows.

Where there is a slight current, and the hedge

is set in a line with the current it may not be injured. Where there is no current, it may be set any way desired.

I believe the Osage Orange will bear being flooded as long as any common tree or shrub we have in our country. Yours respectfully.

JAMES MCGREW.

Dayton, Ohio, Feb. 4th, 1856.

MALONE'S PATENT CORN PLANTER.



EDITORS OF THE VALLEY FARMER:—

We notice in the last number of the *Farmer*, besides numerous advertisements of the "Randall & Jones' Corn Planter," an editorial as to its utility and being "perfect in its principle." Also, quite a catalogue of its "improvements," by E. Leigh. Supposing you like to give both sides to all questions pertaining to the farmer's interest, in your valuable journal, we wish you to insert the following:

Having had considerable experience with the Planter last season, and knowing that it is not what it has been represented to be, certificates and diplomas to the contrary notwithstanding, yet believing the parties giving them honest in their opinions. If it were necessary we could give a much larger list of failures with this Planter through the *entire Union*, than can be given for its success. This is not now our object; we wish to call the attention of farmers to a PLANTER, about which there is no mistake, as it is "perfect in its principle," to prove which it only requires a personal examination of the two, when any one with half a mechanical eye, can see the advantages "Malone's Patent Corn Planter" presents over all others. It has now been in successful use since 1853, and not one, so far as we have been able to learn, has ever failed to do its work satisfactorily. But to the contrary, has been growing steadily in favor ever since, quietly but surely. They are

now offered to the public the same machine as then, without a long list of "improvements suggested" by "the ingenuity and perseverance of the farmers" to remedy any "defect" that might have existed, as they were *all right* when first put into their hands, and have so proved themselves.

By referring to the cut it will be seen that the feeding operation is performed by a slide passing horizontally through and under the Corn in the feeding box, consequently can *never miss* a single hill, while *all* perpendicular feeders are liable to choke, besides having more friction, thereby *often missing several hills* before the operator is aware of the fact. It has a long, slim, wedge-like point, which enables the operator to thrust it into the ground any desirable distance at pleasure, according to the nature of the soil; then by the simple movement of the two LEVERS, he deposits the corn, covering the same, perfectly. We invite the personal examination of all those who are in want of a "perfect" PLANTER. They are warranted to give entire satisfaction, and to be unsurpassed by any other now in use. Price \$10.

WM. M. PLANT, & Co.

St. Louis, Mo.

BRINE A POISON.—The brine in which pork or other meats have been pickled, has been found to be poisonous to horses and swine, by Mr. Reynal, of the Veterinary School at Alfort, France. It "acts as a local irritant, exciting a violent intestinal congestion and inflammation; it likewise increases the secretions of the skin and kidneys, besides having a direct effect upon the nervous system."

WIND FLOURING MILLS FOR THE PRAIRIES.—The Peoria *Transcript* is informed that the Rochester (N. Y.) Mill Erecting Company intends to place in operation fifty mills on the Western Prairies during the year 1856, the motive power of which is to be wind alone. The *Transcript* adds:

We hear a company is to be organized in Peoria for the immediate establishment of one of these wind-mills. We understand that the cost of a mill in operation, with two run of four feet stones is only \$5,000. That includes cost of building, machinery, and every requisite, including the right to use the patent. One on this plan is now in operation at Rochester, N. Y., and with two run of stones, thirty bushels of grain are ground in an hour. The running of the mill by wind power is ten months in the year—about average time of steam power, deducting repairs, &c., and more time than most of the water mills. It is represented to be just what is wanted on the prairies.

Stock Raising Department.

THE DAIRY.

In the first article on this subject we spoke of cows, good breeds, keeping, and milking. In this number we would speak of *milk* and its resultant products. A volume might be written on milk and its uses, and still the subject not be exhausted. To our mind there is no one article of food more important, and no one which can be profitably used in more ways. It is an important article in cooking, in making pastry, puddings, many kinds of bread, and in cooking some kinds of farinaceous dishes. As sweet milk, sour milk, butter-milk, cream and butter, it may enter more largely into the luxuries of the table than anything else, and when properly used is invaluable for its nutritious and healthy qualities. It should constitute a part of every meal we eat. As a dilutant or beverage drunk at meals it should be more generally used.—Young people, especially, should cultivate the habit of using it instead of tea and coffee. Milk or water should wholly supercede these pernicious drinks. They are nature's providers of the beverage for man.

The chemical analysis of milk as given by Dr. Johnson in his work on Agricultural Chemistry, is as follows:

Casein or Checse	4.58
Butter	3.13
Sugar of milk	4.77
Inorganic matter	0.60
Water	87.02
	100.00

Boussingault, Playfair and others have analyzed milk obtained from different cows, fed on different substances and have varied a little in the result from Dr. Johnson, but so little as to give us full confidence in the analysis here given. Any one acquainted with the qualities of our best foods, and the requirements of the human system can see at once that everything in the composition of milk is found in the composition of the human body, and is required in our food to sustain our health and strength.

Casein, or pure curd, is nearly identical in composition with the albumen of many of our most useful vegetables, as grass, hay, roots, &c.; with the legumen of beans and peas; with the gluten of wheat and other grains, and with the protein compounds of oil cake, bran, linseed, corn, barley, oats, and nearly all the substances used as food. So we find in milk

the same substance as in all the leading foods, the same substance as constitutes the leading elements in the animal tissue, a substance without which food would be of little or of doubtful value.

Butter is the oily particles of the milk, which as a food supplies the oleaginous substances of the animal economy. The butter in the milk is the same as pure butter in its consolidated form after it is churned. The particles of butter in the milk are held in little sacks or bags, very small and of an almost infinite number. This oil or butter is specifically lighter than the other portions of the milk, and hence will rise to the top when the milk is permitted to stand for a few hours. The moment the milk is in a state of repose the particles begin to rise; but they do not all rise for a number of hours, depending somewhat upon circumstances. These particles gathered on the top constitute cream. The cream then, is composed of butter, and the material of which the sacks which hold it is composed, which is chiefly of the nature of casein, and such particles of casein, water, and other materials as may have adhered to it. Butter is the chief ingredient. Cream is the gathering of the oleaginous parts of the milk, as closely as they will consolidate without the use of mechanical means. Cream may be regarded as the natural product of milk, while butter is a mechanical product. Butter is a forced and unnatural consolidation of the oil of milk. And in our opinion is not so useful nor so healthy an article of food as cream; nor is cream so valuable and healthy as milk itself. Milk contains many essential qualities of food in such a proportion as our bodily wants require. Pure butter contains but one essential and that such an one as is found in all our foods, in about such proportion as our wants require. If then, we eat butter we eat more of this oily element than we require and load our stomachs with an offensive amount of oily matter, which must be disposed of at the expense of much waste of time and strength on the part of the digestive economy. And the more butter we eat the greater is this useless and destructive tax on the powers of digestion. It is not that butter is bad, but that it affords a superabundance of a good thing. Too much of a good thing is an offence. Too much food is an offence. Too much lime, too much albumen, or any other essential food is injurious. The office of food is to supply the waste and for growth of the system. All above the needed supply is useless and injurious. It is in this way that we regard the use of butter as unnecessary and hurtful.

Better far to use cream. This in a great measure lessens the evil. Cream is as delicious to the taste as butter can be; is accepted most cheerfully by the stomach, is often recommended by physicians for weakness of the digestive system, and supplies other materials for the nourishment of the physical powers. But even cream is too oily unless sparingly used. All substances furnish more or less oil, and if we use one which is chiefly oleaginous we get more than the needed supply. While we would urge farmers and everybody else to the use of more cream and less butter, we would caution them against a too luxurious use of cream, and recommend milk in preference to either. Milk with bread, pudding, desserts, &c., is excellent. We know it from years of experience; while cream for shortening, condiments, dressings, &c., is far better than butter, lard, or suet.—There are many ways in which milk can be made to supply the place of butter to suit even the most fastidious taste. But if one does use butter then he should be sparing in the use of other oily or greasy foods. The use of too much of this kind of food is the great evil of our present dietetic system. Every dish must be oiled, greased, buttered or something of this kind, or we think it is not eatable. While we improve our dairies we ought to improve in the use of what they furnish us. To use and not abuse the good things supplied by a bountiful Providence and our own industry, is the grand art of life. While we state the properties and use of milk we should guard against any abuse to which it is or may be put.

The sugar of milk is essential as an element of food. Sugar in all its forms is a useful and nutritious food. The water too, held in milk, is useful as a dilutant. Our systems require much water. If they get it in the food it is not required as a beverage. In future articles we shall speak of batter and cheese making. *

THE VALUE OF APPLES FOR STOCK.

A farmer in Western New York, as announced by the *Rural New Yorker*, estimates the value of apples about equal to potatoes for stock.—He would have them boiled and mixed with meal or bran. He says: "The fattest beef I ever saw was a heifer fed on one bushel of apples per day, from August last until within a few weeks of slaughtering, when she had corn in the ear. I bought a quarter of her beef, and am satisfied that good beef can be made from apples. One of my neighbors feeds his horse on apples and hay, and it is in excellent condition, fat and sleek—his coat very smooth and

fine." It is worthy of a trial by those farmers who have apples they cannot market. We have known many farmers feed apples to hogs through the fall and winter. We doubt not that apples are excellent food for horses when mixed with hay and grain, and especially for horses fed considerably on grain. *

TO IMPROVE THE BREED OF MILCH COWS.

"If those who are most deeply interested cannot be induced to make some effort to improve their milch cows, we must permit them to go on in the old way, in which they milk their cows one half the season, and the cows milk them the other half."

We would select any cow remarkable for her productiveness in milk or butter, or both without reference to anything else, and breed her to a bull whose dam had also the same property. A heifer calf from such parents would generally inherit their tendencies. If the grandams on both sides have also been deep milkers, the chances would be very much increased. Every farmer who is a dairyman, and depends for a large share of his income from the sale of milk and butter, should raise his own cows, and spare no expense to obtain such, not only for immediate profit, but for breeding, as are adapted for this one object. As in order to keep up his stock, it is often necessary to make purchases, it also becomes important to know if there are any well recognized points to select a cow which are reliable and invariable. With the exception of the Alderney, perhaps there is no breed in which the milking property can be said to be a fixed characteristic. The *Farmers' Magazine* says of a prime milch cow:

"The head should be small but rather long and narrow at the muzzle; the eye small, but quick and lively; the horns small, clear bended, and their roots at considerable distance from each other; neck long and slender, and tapering towards the head, with little loose skin hanging below; shoulders thin, hind quarters large and capacious; back straight, broad behind, and joints of the chine rather loose and open; carcass deep, and the pelvis capacious, and well over the hips with fleshy buttocks; tail long and small; legs small and short, with firm joints; udder capacious, broad and square, stretching forward, and neither fleshy, low hung, and loose; hair soft and woolly; the head, bones, horns, and all parts of least value small, and the general figure compact and well proportioned."

This is such a picture as most would draw of a well-shaped cow, and yet who has ever seen one combining all of these points? How many of them are necessary to constitute a deep milker? and do we not often find a deep milker who has very few of them? We believe many a cow is spoiled for the dairy by having been stunted and kept on too scanty food when a calf. Calves should receive as ample a supply accordingly, and as succulent and nutritious character of food as a cow in milk. This enlarges and gives full seize to the lacteal vessels, strength and vigor to the constitution, and we are confident materially aids to make the full grown cow what we want her to be.

GUBBIN'S tests for a good cow, as shown by the escutcheon, we find are much and increasingly relied on by dairy-men. Without being able to understand how they are connected, or what they have to do with the lacteal secretions, and which may be like many other matters which we do not understand, but cannot help believing) there is abundant evidence that they generally accompany, and have been fully proved by thousands of farmers to be a sign of deep milking. From our own observations, we know of no tests so reliable, and would advise every dairyman to procure a copy of the work.

The value of a dairy cow does not depend entirely on the amount of her yield, but also on the time she will go dry.—*Montgomery Ledger.*

For the Valley Farmer.

ST. CHARLES CO., MO., Jan. 11th, 1856.

MESSRS. EDITORS:

I noticed in the Jan. number of the *Valley Farmer*, an article headed, "An Experiment with Corn and Cob Meal," in which the writer states that it was a failure, and thinks he could have done better with the meal of the corn without the cob. And also in the Stock Raising Department, you say "it is a question in the minds of many whether the cob of Indian corn affords any nutriment or not."

Having some doubts on the subject myself, and presuming there are others as much in the dark, I would like the subject investigated as much as possible, and am therefore induced to send you the following communication from the old "American Farmer," published in Baltimore in 1820, which (though old) may be new to a great many young farmers, as it is to me, and may throw some light on the value of corn and cob meal.

I am much pleased with the improvements in the *Valley Farmer*. Wishing you that success which your enterprise so much deserves, and hoping that your paper may be the means of many improvements we so much need, I remain

Yours with respect,

YOUNG FARMER.

ON THE VALUE OF COB AND CORN MEAL.

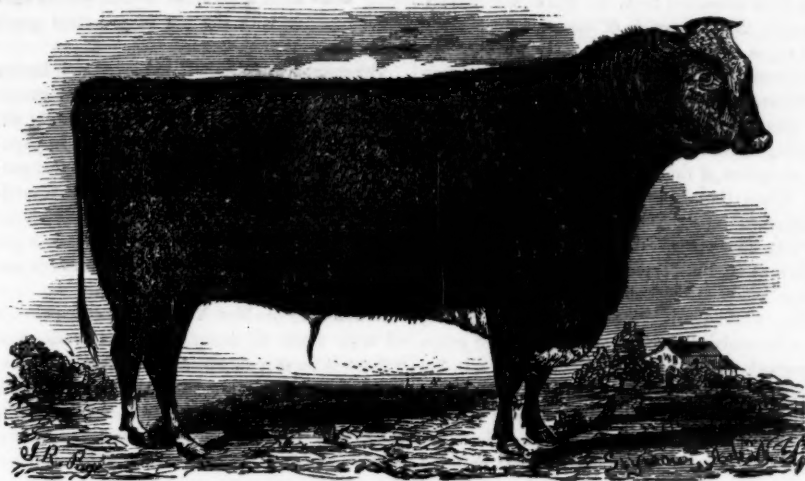
RIDGEWAY, VA., May 1, 1819.

MR. SKINNER:—More than twelve months ago I was conversing with our esteemed friend and worthy member, Mr. Jno. Patterson, upon the value of corn cobs ground up with the grain as food for stock. He suggested the idea of testing its nutritive strength by the process of distillation, which I undertook to do, and furnished him with the result, with a view of having it communicated. * * * * *

Ten bushels of the corn and cob ground together, were taken, which weighed 367 lbs; and ten bushels of pure corn meal, were taken, which weighed 400 lbs. They were both brewed or meshed on the same day, and distilled separately,

with great care and accuracy. The product of the pure corn was 18 gallons, and the product of the mixture of corn and cob was 13 gallons of spirits, each of the same proof. Now, it is generally agreed that the cob constitutes about one-half of the bulk of corn, [we now-a-days, 1856, agree on 1-3, in other words, we give two measures in the ear for one shelled, and the cobs are either used as fuel or thrown away as of no value]. If this were true, the product of the mixture, then, should have been only 9 gallons, which is the half of what the pure corn produced. But 13 were obtained, four of which must have been of course, extracted from the cob, or if we estimate its nutritive power by the quantity of spirits, it is clear that whenever we shell ten bushels of corn and throw away the cobs, we throw away a portion of food equal to the difference between 9 and 13, or nearly one-half. As it relates to the respective weight of each, the difference in favor of the mixture is still greater, the pure meal being more than three pounds heavier to the bushel. * * * We are aware that the saccharine particles, or those yielding spirits, are not the only constituents of nourishment. We know that oily mucilaginous particles are also component and necessary parts of food. But which preponderates, or in what proportion to each other they are required to exist, in order to constitute a healthy food, I do not pretend to know. It is certain, however, that the two latter do exist, in some degree, in the cobs of corn; and since the experience of all who have tried it, concur in reporting it to be the most healthy mode of feeding corn, perhaps it will not be unfair to infer that they maintain a due and proper proportion to the spirit. If so, the experience must be satisfactory and the conclusion I have drawn from it undeniable. But besides the actual economy, there is another advantage in this way of feeding corn, which ought to engage the attention of every farmer. It is notoriously true that the unground grain is heating to the stomach of all animals, and of difficult digestion, producing colic and other inflammatory diseases, particularly in horses, which tends greatly to shorten their lives, they are deprived of the benefits derived from the stimulus of distension (so necessary to the proper health of all animals) by being unable to eat a sufficient bulk to produce it, before they become gorged. But when ground into meal along with the cob, and mixed with cut hay or straw of any kind, this necessary distension is produced without any danger of disorders, arising from eating too much. It is now eight years since I have been in the habit of feeding corn in this way, and out of six to ten horses, I have annually kept, in that time there has been but one case of sickness among my horses, which was a slight colic. This uncommon health of my horses I attribute in a great degree to the use of ground food. I. M.

TO CURE BROKEN HORNS.—Remove the mutilated horn, and bind the stump with a cloth well tarred or pitched; any fabric will do to bind with, if the wounded part be first well covered with warm pitch.



SHORT HORN BULL CALF RED JACKET,

Owned and bred by Col. J. M. Sherwood of Auburn, to which was awarded the second prize at the late State Fair at New York. Calved Nov. 3, 1853. Got by 3d Duke of Cambridge, 5841—Dam Red Rose 2d, bred by J. Stevenson, Durham, England, of his Princess' family, by Napier, 6237.—Tube Rose, by South Durham, 5281.—Rose Ann, by Belerophon, 3119.—Rosette, by Belvidere, 1706.—Red Rose, by Waterloo, 2816.—Moss Rose, by Barron, 58.—Angelina, by Phenomenon, 491.—Anna Boleyn, by Favorite, 252.—Princess, by Favorite, 252.—(Bred by R. Collins,) by Favorite, 252.—by Hubbuck, 319.—by Snoden's Bull, 612.—by Masterman's Bull, 422.—by Harrison's Bull, 669.

CATTLE CONSUMED IN NEW-YORK CITY IN 1855—IMPORTANT FACTS.

Solon Robinson has furnished, through the New York Tribune, his annual table of all the beef cattle, cows, veals, sheep and swine sold in that market during the year 1855; showing the weekly receipts of each kind. This table furnishes the basis of the interesting and important facts which we arrange for the consideration of Western farmers.

The whole number of beeves received during the year was 185,574, to which are added 12,100 cows; of veals 47,969; of sheep and lambs 588-141; Swine 320,627, making a grand total of ONE MILLION ONE HUNDRED AND FIFTY-FOUR THOUSAND FOUR HUNDRED AND TWENTY-TWO. This is exclusive of the large quantities of salted provisions consumed. Of the number of animals required for this, we have not the means at hand to determine.

Of beeves alone, Ohio furnished 6,505 more than New York. Ohio and New York were the only States that furnished a supply every week during the year. There were received from the young State of Texas nearly four times as many as from New Jersey. The weekly average sales of bullocks were 808 more than the weekly average sales in 1854. Of this immense number

of live animals the largest proportion were received by the three principal rail roads of the State. The lowest price per pound, for which this beef was sold was 7 cents, the highest price 15 cents.

Estimating five of the small animals equal to one beef, it would increase the number of beeves to 376,921. Estimating the entire food of all kinds, during the life-time of these animals, equal to 100 bushels of corn to each beef, it would amount to 37,692,100 bushels. By extending the calculation predicated upon this basis, according to the population of the respective cities of Boston, Philadelphia and Baltimore, the number of bushels of corn consumed to raise and fatten the fresh meat supplied to these cities, amounts to the enormous quantity of *eighty-one million one hundred and eighty-three thousand two hundred and ninety-one* bushels.


The average yield of corn per acre of the corn growing States, we believe, is set down at 37 bushels. To produce this quantity of corn then, *two millions one hundred and ninety-four thousand one hundred and forty-three* acres of land are required.

To produce these 81,183,291 bushels of corn, how much of the natural fertilizing elements

have been extracted from the soil of the country to supply this one article of human food to these four cities during one year.

Without the adoption of an improved system of cultivation, how many years will it require to reduce this land below the standard of remunerating cultivation? A glance at the worn-out condition of the soils of Maryland, Virginia and North Carolina will serve to answer this question.

These facts suggest another consideration, important to the farmers of the West. Much of our lands are peculiarly adapted to stock raising, while the lands in the Atlantic States, if not becoming less and less productive of crops in general, there is a gradual diminution in the supply of beef cattle, for as the country becomes more densely settled, it is devoted more to farm and garden crops, fruits, &c. And it is to the great West that the Eastern cities must look for their supply of beef. The price of beef in the eastern markets has advanced full one hundred per cent within two or three years. In order then, to meet this constantly growing demand, it is important that every farmer should improve his practice of farming in general, and his system of feeding in particular. Upon the practice of feeding we have already given some hints, and shall continue to do so in regard to all kinds of farm stock.

 We give place to the following article from Mr. Chadwick in defence of the "Little Giant" Corn Crusher, but shall review it in our next number, when we think we shall be able to substantiate, by incontestible facts and arguments, the positions we assumed in our article on *Preparing Food for Farm Stock*, which appeared in our January number.

[Written for the Valley Farmer.]

Another Article on the Subject of Preparing Food for Farm Stock.

As the chief aim of an agricultural paper is to lay before the community facts pertaining to agriculture, and as experience is superior to any amount of theorizing, the writer of this begs permission to discuss some points wherein he deems you are in error in an article entitled "Preparing food for Farm Stock," in the January No. of the *Valley Farmer*. The writer would remark by way of premise, that he has been some time interested in the feeding of draught animals, especially mules and horses among the Lumber districts of Georgia and Florida, but more recently in the sale of an important farm implement in the West, and can

bring some little experience to bear on the subject, together with the aid of *practical men's* opinions.

The economy of ground food is too well known to require comment, but the economy of grinding corn and cobs together is less generally understood, though every day increasing in popular favor, and the unanimous testimony of persons feeding and fattening stock, is, that in addition to the great saving in amount fed, from a sixth to a fourth less time is required to put them in condition, than when fed on corn unbroken.

A writer in the New York Tribune has asserted with some flippancy, but less truth, that "there is no more nutriment in corn cobs than in bass wood rails." That the reverse of this proposition is the case, has been repeatedly practically proven. A gentleman in Adams, Jefferson county, N. Y., whose name does not this moment occur, tried the experiment of feeding cows on ground cobs alone, and with perfect success. Another gentleman, by the offer of a premium by the Messrs. Scott & Hedges, of Cincinnati, for the best essay on actual experimental feeding of corn and cobs and cobs alone, was induced to try corn cobs with sheep. The result proved that it is possible to keep sheep in good order with no food but cob meal. Now we will venture to say that if "basswood rails" possess the same amount of life-sustaining properties, the N. Y. Tribune will be compelled to get into a warmer glow than even that mercurial sheet is accustomed to, to cause this fact to be generally appreciated. The writer's observation has taught him that cobs from corn cut prior to the perfect maturity of the kernel, (as is often practiced in New England and New York to avoid frost) possesses much more nutriment than when left until quite ripe in the field. May not this account for the diversity of opinion among intelligent persons on the subject of corn cobs? But the chief feature of cobs to grind with corn, which is valuable, is not the amount of their nutritious properties, but their want of such; and the fact grows every day more thoroughly understood, that when properly prepared, there is nothing which can so easily and safely be administered to stock, with corn, as the cob. The questions then, are briefly resolved into the following:

1st. What is the proper degree of fineness to administer corn and cob meal to the animal? and
2d. Which is the best machine to prepare this pabulum?

1st. The article which is used as a text for this, says: "In order that cattle may have the

full benefit of all the nutritious properties of the grain, they consume, *it should first be ground into fine meal, and only fed to them when incorporated with hay or straw, which should first be cut and then soaked or thoroughly moistened before mixing it with the meal.*" The italics are as given.

My own experience has led me long since to reject fine meal entirely, for stock feeding; as without the utmost care of thoroughly mixing with cut feed of some sort, flatulence and a variety of kindred diseases result inevitably. To thoroughly incorporate with cut hay, the latter must be soaked or moistened. In warm weather, this is possible; but during our inclement winters when most feeding is done, this is impossible. Corn must therefore be fed dry much of the time, hence the necessity of preparing it in a manner less liable to lead to injurious results. The tough shell or skin of the kernel, is the portion affording greatest resistance to the digestive fluid, and once broken apart the remainder is easily acted upon. I have never observed an instance where an animal unless injudiciously fed, has dropped any considerable portion of its food when fed on cracked corn: I have therefore deduced this maxim, that in proportion as the coarse, crude particles of hominy, or cracked corn are more easily and quickly acted upon and penetrated by water than flour or fine meal, so much more easily are they in like manner affected by the fluids of digestion. The opinion of nine tenths of my agricultural acquaintances fully corroborates the truth of my deductions. Corn cobs to be fed beneficially, require to be ground sufficiently to leave no portion of the woody fibre in such a state as to produce irritation, and as they are not to be digested will bear being much finer than corn meal with which they are to be incorporated. A mill, therefore, which will pulverize the cob and crack the corn must be the desideratum required. *The "Little Giant" Corn and Cob Mill, it is claimed, does this, which brings me to proposition*

2d. The article quoted from, says again:—"This has led to the manufacture of a great variety of corn and cob crushers. These crushers are generally made of cast iron, and while they last but a short time, they very imperfectly prepare the grain for feeding."

That this paragraph is erroneous, I shall proceed to show.

One of the mills above alluded to (which is made of cast iron) was sold to Mr. J. Warren Grigsby, of Danville, Ky., in 1854, and was

used for grinding, as is stated by the latter gentleman, near nine thousand bushels of corn, and shows no perceptible wear. The same is now exhibited at the ware rooms of the manufacturers. Another sold to S. W. J. Whipple, Esq., near Vandalia, Illinois, in May 1854, has ground double that amount, and is yet apparently uninjured. And further, since the Mill alluded to by name above, was first introduced to the public in 1853, the writer of this has never known one of them to be rendered useless, except by carelessness or accidental breakage. Facts like these prove conclusively that cast iron Mills when properly used, are not liable to quickly wear out. Many imitations, more or less perfect, have prejudiced the public, very likely, and perhaps the writer in the *Valley Farmer*, against all cast iron Mills.

For making fine meal, there is little doubt but that a Burr is better than a metal mill, (its expense is more than quadrupled), but for coarse cracking for stock, most decidedly inferior, for the following reasons:

A Burr, unless arranged for very fine grinding, fails to pulverize the cob sufficiently, but only flattens the pieces and strings them into rough fragments, especially does it not act upon the minute, hard particles from between the kernels of the ear, which leave the mill as sharp as knives, and possess all the irritating properties which have caused complaint from feeders of cob meal. Let any examine the work done by a Burr, and the defect mentioned will be immediately apparent. Indeed, hogs will pick out and reject the large pieces of cob from a Burr, which they do not, and cannot do, when prepared by a cast iron mill. To understand the superiority of the metal one, a description of the mode of their operation is appended.

The ears of corn are thrown into a crusher which breaks them into very small pieces; they then descend into a second grinding apparatus furnished with teeth or grooves, acting on the principle of a pair of shears, when the cob being cut with more facility than the kernel, is reduced to a powder and together with the broken corn passes out ready mixed for feeding to the animal. In this state it is, notwithstanding its admixture with the cob, preferred by the hog, to the ear corn. One minute's time will serve to adjust the machine for grinding shelled corn.

One word more, notwithstanding the length of this. If we have failed to convince, it is not for want of facts, but from want of perspicuity in laying them before your readers.

JAMES B. CHADWICK.

[Written for the Valley Farmer.]

HOW TO REAR CALVES.

MESSRS. EDITORS:—As but little attention is paid to the manner of rearing calves, I will briefly give to your readers the best mode according to my experience.

In selecting calves, the earliest should be preferred. Calves should never be allowed to draw milk from the dam (if they are to be raised) as they will not learn to drink as readily, after drawing milk from the cow.

Calves should be allowed from seven to eight quarts of new milk per day, until they are three weeks old. After this age they may be fed ten quarts of skimmed milk, per day, with a handful of fine meal mixed with each mess before feeding. They should be allowed room for exercise, and should have a bountiful supply of straw thrown into their pens to keep them clean and dry. During the summer months they should be allowed a small lot for pasture with running water if convenient. If the lot contains no water, it should be given to them regularly every day. I have seen calves treated in this manner, which were scarcely inferior to the best calves fed wholly on new milk.

Calves may be weaned when four months old; but they should have the very best care after they are weaned. They should have a daily allowance of meal or potatoes, until they are one year old. When calves are treated in the manner I have described, they will grow large and keep in fine condition, and cost only about half as much as when fed on new milk. All that is required, is care and regularity in feeding. I might also add that good calves may be raised by feeding whey, instead of skimmed milk, and adding the meal; although I prefer the skimmed milk.

L. C. C.

WHY IS A THOROUGH BRED BETTER THAN A COMMON BRED.

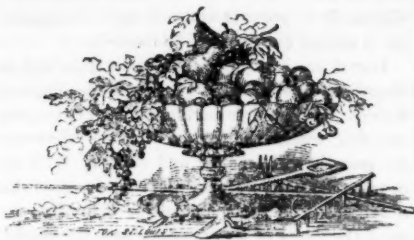
We have received a few queries from one who subscribes himself a "Beginner," and who wishes to know why a thorough bred animal, such as a thorough bred Durham, a thorough bred Hereford, or Jersey, or Devon, is any better than common cattle. If, says he, I have a common bred, say native cow, if you please, equally as large and equally as fat as a thorough bred Durham cow, why is she not as good, and why should she not command as much money in the market as the thorough bred Durham cow, or Devon? If you wish to obtain merely the beef, hide and tallow, to be sold in the shambles, perhaps the common bred cow may be

worth as much as the other. Or if you want milk, or work, you may perhaps find some of the common bred as valuable as the thorough bred. But here lies the difference,—if you wish to breed from them you are not sure of getting the like from the common bred, while you may be certain of getting the like from the thorough bred. The thorough bred, of any breed, have had their peculiar characteristics fixed by a long and careful and thorough course of breeding, it may be for centuries, so that they are pretty sure to produce a progeny possessing the characteristics of their parents. Not so with the common bred. If you have one of them for instance, that is very good for milk there is no certainty that her progeny will be good for milk. If you have one possessing a desirable color or form, you are not sure that its progeny will possess either; while with a thorough bred you are. Take a Hereford, for instance, with his solid, compact, mahogany colored body, and white face, and you may predict with much certainty, that all their calves will possess the same distinctive characteristics; so of Durhams, so of Devons, so of Jerseys.

Hence a thorough bred is more valuable than the common, not for its amount of beef or bones or hide, or tallow, but for the inherent capacity they have for producing their like to a great degree of certainty.

But cannot our common breeds be brought to this capacity? Yes, if you have a genius for conducting the business of breeding according to some model, or characteristic, and could live a hundred years, or could transmit your genius to some one that would continue the experiment to that period of time you could; but since we have so many good breeds, that are thorough bred already to our hands, it would be wiser to adopt them than to commence experimenting for a new breed. There will be scope enough to exercise your talents in breeding, in keeping up the excellencies and characteristics of the breeds we have. They being artificial, innovations upon nature, would certainly deteriorate and go back again in time, if great care was not taken to keep them up.—*Maine Farmer.*

TO PREVENT COWS FROM HOLDING UP THEIR MILK.—One of the best methods to prevent cows from holding up their milk, is to feed them at the time of milking. If this is done they will give down their milk freely. But if you neglect to feed them they will hold it up so that it is almost impossible to get any from them. Try the experiment of feeding them at milking.



Horticultural Department.

Pears on Quince Stock—Errors in Propagation and Cultivation.

The enquiry is frequently made: Can the cultivation of Pears on the Quince be made profitable?

If the trees are properly grown, and cultivated on suitable soil, and in a favorable climate, we have no doubt their cultivation may be rendered as profitable as almost any other kind of fruit, and particularly the winter sorts, which may now be sent by rail road a thousand miles to the cities where there is an unlimited demand at good prices; while the cultivation and correct training of dwarf trees, affords an opportunity for the exercise of much skill, which to the true lover of horticulture is productive of great pleasure. But if there is not a very general lack of knowledge upon the subject of cultivation among the planters of these trees, there is at least a great deficiency in their practice. We do not believe that there is one dwarf pear tree in a hundred, now planted throughout the country, that has received the care and cultivation necessary to insure any degree of permanent success; nor is the error confined to the cultivation in the garden or orchard alone; for we think that some of the American nurserymen are at fault in their method of propagation. We do not say this by way of discouraging the cultivation of this fruit, for if its cultivation should be increased ten-fold, there would not be enough to meet the demand; but what we wish is to see the practice of cultivation improved.

We have had some experience in the matter of propagating, planting and cultivating trees from the American and European nurseries. The trees that were propagated in the English and French nurseries, were furnished with large masses of fibrous roots, which with kind treatment will sustain a vigorous growth and liberal crops of fruit for many years, while those propagated after the manner of some of the nurse-

rymen in our country, with no more care than is usually bestowed upon them in their after treatment, will hardly survive a second crop of fruit. The Europeans have more experience in tree growing, and withal are generally better gardeners than we Americans are; but we possess the means of improvement, and shall ultimately excel in gardening, as we do in many branches of manufacturing.

There are several advantages of cultivating the dwarf, over the standard pear, viz: The dwarf tree will generally come into bearing in three years from the time of budding, while many of the sorts on standard or pear roots will require eight or ten years, before they will produce fruit. Dwarf trees occupy comparatively but a small space and are well adapted to the garden where there is not room for the large growing trees. In orchard culture, five times as many dwarf trees may be grown on an acre as there can of standard trees. Several varieties of the pear, such as the Duchess of Angouleme and Beurre Diel are much improved in quality by being worked on the quince stock.

The Angers quince is the kind that is preferred, and is generally used by nurserymen for dwarfing the pear. It is a free growing variety and is propagated by cuttings.

Dwarfing is the result of a union by grafting or budding a vigorous growing species, possessing large sap vessels, upon a stock of dwarfish habit of growth, with naturally more minute and contracted sap vessels. The pear, when budded on the quince, partakes of its slower habit of growth, and instead of becoming a stately tree of forty or fifty feet in height, it is contracted within the ordinary limits attained by the quince. The food received from the earth through the roots and small vessels of the quince is conveyed slowly to the graft. The sap thus impeded in its ascent is, from the same cause slower in descending, and hence early maturity and fruitfulness is produced. Similar results may be produced upon a fast growing fruit tree which is inclined to make wood at the expense of the fruit-producing principle, by winding a wire firmly around the branches, or by cutting a narrow ring of bark from around them, which prevents the return of the sap, and promotes the formation of fruit buds in the place of wood. This practice, however, can only be rendered available at the expense of the branch.

The celebrated Mr. Knight, in writing on the subject makes the following remarks:

"The disposition in young trees to produce and nourish blossom buds and fruit, is increas-

ed by this apparent obstruction of the descending sap; and the fruit, I think, ripens somewhat earlier than upon young trees of the same age which grow upon stocks of their own species; but the growth and vigor of the tree, and its power to nourish a succession of heavy crops, are diminished apparently, by the stagnation in the branches and stock, of a portion of that sap which, in a tree growing on its own stem, or upon a stock of its own species, would descend to nourish and promote the extension of its own roots. The practice, therefore of grafting the pear on the quince and the peach on the plum, when extensive growth and durability are wanted, is wrong; but it is eligible wherever it is wished to diminish the vigor and growth of the tree, and its durability is not so important."

The objection referred to in propagating the pear on the quince, as practiced by some nurserymen, is in budding and cutting back the top while the stock is too small, and before the quince has had time to form sufficient roots to sustain the tree for any length of time after it has arrived to bearing size. The quince cuttings are often budded the same season they are planted, when but few roots are formed, and after the quince stock is removed the following spring, there is not that tendency in the pear top to contribute to the formation of roots that is naturally produced when in connection with its own top. When the quince is grafted and cut back in this early stage, the growth of the pear will be vigorous for a year or two, but lacking a supply of roots necessary to sustain a crop of fruit, the first season of bearing, generally so far exhausts its energies, that it survives but a short period.

The great demand for dwarf trees beyond the ability of the nurserymen to supply, has led to this speedy method of propagation, which experience and observation will ultimately remedy.

The quince should stand at least two years, with good cultivation, before its top should be suffered to give place to the pear, and then, if not well grown they should stand another season before they are budded. Trees propagated in this way, if well cultivated afterward, will last for years and bear well.

There are many persons who are attempting the cultivation of the dwarf pear, who have not fully investigated the change that is wrought in it, in its transfer from its own, to the roots of the quince. The roots of the quince are a mass of fibres, confined within very narrow limits, extending but a foot or two from the stem of the tree. Therefore, if the soil in which it is

ultimately to grow is not rich and well prepared, it cannot flourish and be fruitful.

Dwarf trees require clean cultivation and an abundant annual supply of well decomposed manure, for if the ground is not kept constantly enriched within the narrow limits of the roots, the growth will be slow and sickly. With the pear on its native stock, the case is somewhat different. The roots extend for many feet beyond the limits of its branches, and the rootlets fill every inch of the entire area in search of their supply of food.

To properly train the dwarf pear tree, it requires some judgment and skill. The late A. J. Downing, probably as well understood what constituted a well cultivated and properly trimmed pear tree as any one in the United States, and perhaps has seen as perfect specimens of good training, but after his visit to some of the best gardens in France, in 1850, he acknowledged that he had never before seen a well trained dwarf pear tree. In this department of gardening the French have no superiors.

Col. Marshall P. Wilder, of Boston, is a gentleman of great experience in the cultivation of this fruit, and his views and opinions may be regarded as altogether reliable. Some time since on the discussion of fruits, Col. W. made the following remarks:

"Much attention has been given of late years to the cultivation of the pear on the quince stock, and in relation to which I have been requested to give the result of my experience. As a general rule, no tree will succeed for any great length of time where it is grafted on any other than its own species. There are, however, exceptions to this rule, and among them, some varieties of the pear, which grow vigorously, bear abundantly, and which seem to be even better adapted to the quince, than to their own root. An impression extensively prevailed unfavorable to the cultivation of the pear on the quince. This has arisen principally from an improper selection of the kinds, or from injudicious cultivation. There are, however, three considerations which are absolutely necessary, viz: a deep, rich soil, the planting of the quince stock entirely below the surface of the ground, and a systematic and scientific course of pruning, as the tree progresses in growth. Objections to this species of pruning, have been made from the belief that the quince was a short-lived tree, and that the crop must necessarily be small, from what are termed 'dwarf trees.' Such, however, is not my experience. On the contrary, I have pear trees on the quince root, which are twenty-five years old, and which produce, annually, a barrel or more of fruit each, and for aught that I can see, they are destined to survive as long as any that I possess on the pear root. These may, and probably have, in some instances, thrown out roots from the pear stock, but whether this be so or not, instances are not

rare where such trees have attained in France, the age of more than a hundred years, and we know of a quince tree in Massachusetts, which is forty years old, and which has produced ten bushels of fruit in a season.

"The pear, when grown on the quince, should always be trained in a pyramidal form. These may be planted in much closer order than when grown as standards. We have known them to succeed well where grown at the distance of six feet apart in the rows, and twelve feet between the rows. In this way, Mr. Rivers, the great English cultivator, planted 2000 Louise Bonne de Jerseys, and 1500 Glout Moreceaus for the London market. We consider twelve feet apart each way, a liberal distance. This would give 302 trees to the acre, and we are clearly of the opinion, that soil and selection of varieties being right, no crop, whatever, would be more profitable. Such a plantation, with proper care, would yield, in the fifth year, from 75 to 100 bushels of fine fruit. As to profit, this will not appear like an exaggeration, when it is known that Glout Moreceau pears, a variety which succeeds admirably on the quince, have sold during the winter, readily, at one to two dollars per dozen, in our market.

"We name as varieties which succeed well on the quince, the following, and to which might be added many more:

"Louise Bonne de Jersey, Vicer of Winkfield, Duchess of Angoulême, Glout Moreceau, Passe Colmar, Urbaniste, Belle et Bonne, Beurre d'Anjou, Beurre Diel, Easter Beurre, Beurre d'Amanlis."

We present our readers with another pleasant communication from our clever correspondent "N. B." on the subject of one of the most beautiful of our forest trees.

THE LIRIODENDRON TULIPIFERA.

Mr. Smith and his friend Jones, we left listening to the gardener's lecture on the Kentucky Virgilia. The lecturer was so well pleased with their attention, Jones' occasional manifestations of impatience being attributed to some inexplicable peculiarity of constitution, that he offered to give them any information in his power. Mr. Smith, for himself and Jones, returned thanks in the politest manner. During their stay they often visited the gardener, and Mr. Smith considered himself abundantly rewarded for the time spent with him. Jones, it is true, rather looked down upon the gardener, sometimes in private, accusing him of being an Englishman. But Mr. Smith's politeness generally kept Jones within bounds while in the presence of the gardener.

One day, as they were passing through the grounds, the gardener said, "You are familiar with the *Liriodendron Tulipifera*, I presume."

"No," replied Jones, "we have no tree with any such name in our country. It would have

to be a very big tree that would stand up under such a name."

"It is a very large tree, indeed, and one of the very finest in America, or in the world," rejoined the gardener.

"I am sorry to say I know nothing about it," said Mr. Smith.

"Perhaps you know it by its common name of 'Tulip-Tree,' suggested the gardener.

"No, sir," replied Jones, "we have tulips; but they don't grow on trees."

"It is sometimes called the Saddle-tree, here, from the peculiar shape of the leaves, which resemble a saddle."

But neither of the Kentuckians recognized it by this name.

"But you must have seen it. Although it is distributed over the middle States of the Union, it is in Kentucky that it displays its greatest vigor. Michaux says that considerable tracts of forest in Kentucky, consist almost entirely of this tree. I think he mentions such a tree between Louistown and Beardsville."

"I presume you mean Louisville and Beards-town," said Mr. Smith.

"Probably you are right. But we are not far from the tree. There it is. Is it not beautiful?"

"Ha! ha! ha!" roared out Jones; "why it is nothing but a Poplar tree! ha! ha! ha! ha!" and he laughed, not a mere horse laugh, but a whole livery stable laugh. It was equal to Professor Teufelsdröckh's laugh, which Carlyle tells us was like the neighing of all Tattersall's. The gardener began to fear that some catastrophe would take place—that Jones would burst his diaphragm or his waistcoat; but Mr. Smith knew that Jones would recover in time, and looked on calmly.

At last Jones began to recover from the doubled up condition to which his paroxysm of laughter had reduced him; but as he rose he saw the tree, and exclaimed, "its nothing but a pop—" and was about to go off again, when the gardener said with some dignity:

"My friend, that is no poplar tree." Here indignation put an end to Jones' laughter.

"What!" cried he, "do you think I don't know a poplar tree when I see it? Why, I have seen more poplars than there are trees in all England. Why, Kentucky is full of them! I have seen thousands of them every day of my life, ever since I was knee-high to a—,"

Here a look from Mr. Smith suppressed the name of the aquatic bird which was about to fly out of Jones' mouth.

"We are very familiar with the tree, in our

country," mildly observed Mr. Smith to the gardener, "and there it is always called the poplar tree."

"Yes, sir; but it has not the characteristics of the poplar. Look at the difference of the flowers, for instance. The poplar has its flowers in catkins, the seeds being enveloped in a cottony down. One of the poplars is called cottonwood on this account. But the flowers of this tree are beautiful tulips, and the seed vessels resemble externally, the cones of the pine, more than they do the seed vessels of the poplar."

"That is true," replied Mr. Smith; "there is no great resemblance between this tree and the Lombardy poplar or the cottonwood."

"Indeed, they are placed not only in different genera, but in different orders. The poplar genus belongs to the order *Salicaceae*; the tulip tree to the order *Magnoliaceae*, in which the magnolias are included."

"They are generally very large trees in our country."

"Yes, Michaux speaks of some which were twenty-three feet in circumference. I have seen an account of one which was thirty-six feet in circumference, and of another which was thirty-nine. This tree is said to have been introduced into England by the Earl of Norfolk, in 1663. The oldest tree in England is at Fulham Palace, and is supposed to be more than one hundred and fifty years old. It is about fifty feet high, and its trunk is about nine feet in circumference. The largest tree in Britain is at Hestercombe, in Somersetshire, and is one hundred feet high, with a circumference of about nine feet. But smaller specimens are much the best for displaying the peculiar beauties of the tulip tree. The flowers are too inconspicuous to be seen on the tops of lofty forest trees. When a tulip tree stands so as not to be interfered with by other trees, it assumes a beautiful conical shape, branching out near the ground, and in the flowering season displaying a mass of bloom in harmony with the shape of the tree and the gracefulness of the foliage. Scarcely anything can be more beautiful than one of these trees, standing by itself on a lawn. While looking at such a specimen which appears so perfect and harmonious, we are in danger of regarding the lofty forest specimens almost as a monstrosity."

"I must plant some when I return home," said Mr. Smith. "What is the best mode of propagating them?"

"We propagate them from the seed, and the seeds obtained from America, are the best. It is difficult to transplant them without proper pre-

cautions, since they have no small, fibrous roots. If we begin with them the first year, and transplant them every year till they are placed where they are to remain permanently, there is no difficulty. The tree treated in this way throws out the necessary roots, and may be removed without danger."

"I am very much obliged to you," said Mr. Smith, and he and Jones retired. N. B.

Tuliphurst, Ky.

LIST OF FRUITS FOR CULTIVATION IN THE WEST.

It is no easy task to make a select list of ten, twenty or thirty varieties of Apples, Peaches, Pears and Plums, which shall prove best in every situation and under all circumstances, where a hundred or more kinds of each are cultivated, and all have their admirers.

In order to make a select list of each of these fruits, best adapted to the meridian of Kentucky and Missouri, we applied to a number of the most experienced Pomologists of the West for such a list as they wanted recommended. In comparing these, we find them all to differ, according to the particular fancy of those who furnished them.

In the cultivation of fruits in the West we have had twenty year's experience, and from our own observation, aided by the judgment of our friends, we give the following as the varieties best adapted to general cultivation.

We arrange the lists of the different fruits in the order that they ripen.

In our April number we will give a description of these fruits, together with notes upon the wants, adaptation of certain soils and locations of some of them.

APPLES.

Yellow Harvest,	Fall Pippin,
Summer Rose,	Maiden's Blush,
Red Astrachan,	Yellow Belleflower,
*Black's Annett,	Jonathan,
*Finley,	Yellow Newtown Pippin,
*Bohannon,	Pryor's Red,
Rambo,	Rawle's Jannet,

To which may be added,

White June Eating,	Pennsylvania Red Streak,
Keswick Codlin,	American Golden Russet,
Summer Queen,	Rhode Island Greening,

PEACHES.

Troth's Early,	Crawford's Late,
Large Early York,	New York White Cling,
Grosse Mignonne,	Druid Hill,
George the Fourth,	Columbia,
Crawford's Early,	Grand Admirable,
Old Mixon Free,	Smock's Free,
Livingston's New York	White Favorite,
Columbia, [Rareripec],	Heath Cling.

*Local name.

To which may be added,

Early Tillotson,	Morris White,
Serrate Early York,	Sweet Melocoton of Spain,
Brevort,	Lagrange,

Large White Cling.

PEARS.

Madeleine,	Onandaga (or Swans Orange)
Bloodgood,	Duchesse of Angouleme,
Rostiezer,	White Doyenne,
Bartlett,	Beurre Diel,
Seckel,	Beurre d' Aremberg,
Belle Lucrative, (or Fon-	Glout Morceau,
dante d' Automne,)	Lawrence,
Flemish Beauty,	Winter Nelis,
Louise Bonne of Jersey,	Easter Beurre,

To which may be added.

Dearbon's Seedling,	Buffum,
Washington,	Vicar of Winkfield.

PLUMS.

Green Gage,	Smith's Orleans,
Lombard,	Imperial Gage,
Washington,	Duane Purple,
Columbia,	Nhi Egg or Magnum bonum
Jefferson,	Coe's Golden Drop.

TREE PLANTING.

We notice among the munificent bequests of Elliot Cressen, a legacy of \$5,000 to be employed in planting trees in Philadelphia.

That was well thought of. Every city and village should be in a beautiful grove of cultivated trees. And every farm house should have trees about it. Their shade is refreshing. They protect from sun and storm. It is a law in most cities that every man shall pave the side walk next to his property. Why not add, and set it out with shade trees, one rod apart? We have seen roads for miles shaded with cultivated trees. There is some pleasure in traveling on such a road.

WATERMELON MOLASSES.

Something is said in the papers now-a-days about watermelon molasses. Some doubt that molasses can be made from watermelons. But we see no reason to doubt it. It is almost as sweet as the sugar beet and other substances out of which sugar is made. A Pennsylvania paper says: "We felt incredulous on the subject, but have recently been presented with a bottle of it, by a friend. It was really a nice article, clear, sweet, and of a very pleasant flavor. He informed us that the only process was to boil down the pulp to about one-half. The boiling was continued for several hours. Whether it will pay to manufacture molasses in this way, is another question, and a matter of very great doubt."

Why is it not worthy of a little experimenting by our western farmers, who raise mellons to rot?

THE VINEYARD—LAYING OFF THE GROUND—PLANTING.

In the February number of the *Valley Farmer* we gave the mode of preparing the ground for a Vineyard and the cuttings for planting. We now proceed to give the plan of marking off the ground to receive the cuttings and the vines.

Distance Apart.—The distance at which the vines should stand in the vineyard varies according to circumstances. Where land is very expensive, as in the neighborhood of Cincinnati, the vines are sometimes set as near as 3 1-2 by 4 feet, but there is nothing gained by too close planting; even at the distance of 4 by 4 feet, to succeed well, the land should be rich and in the best possible condition. When planted too close they do not sufficiently admit the sun and circulation of air; and in wet seasons the fruit is more likely to be injured by rotting. On steep hill-sides 3 1-2 by 6 feet is a very suitable distance to set the vines. On level lands 4 by 7 feet is near enough, but if the land is not rich and the preparation has not been thorough, we should advise a still greater distance.

Laying off the Ground.—The ground having been prepared and settled, the next step is to lay it off to receive the vines. When this is done with care, so as to bring all the hills and stakes at exact right angles the vineyard presents a beautiful appearance.

For laying off a vineyard, probably as good and accurate a plan as any, is that described in the little *Manuel on the Vine*, recently published by C. M. Saxton & Co., of New York, written by Charles Reemelin, of Cincinnati.

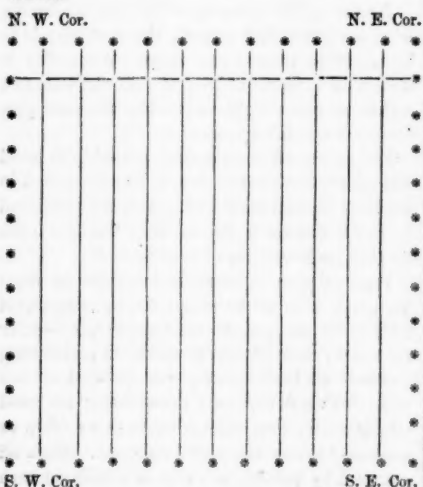
First prepare as many little sticks as there are grape hills in the vineyard, requiring about 2000 to the acre, at the distance we propose for the vines; these should be about 12 inches long and half an inch square, and pointed at one end. "This done," says the author, "get good strong cords, long enough to reach as often as necessary across the entire vineyard. Mark off one cord by putting in a slip of muslin at each of the required distances. This is called the marking cord.

"These cords and the little sticks being ready, let the vineyard be laid out, as near as possible into a square piece of ground. Then starting at the north-west corner, fastening the cord there, draw it thence to the north-east corner, putting the little sticks into the ground at the places marked by the muslin in the marking cord; then fasten the marking cord at the north-east corner, draw it thence to the south-east corner, again putting in the sticks at the proper

places, and thus on from the north-west corner to the south-west, and again from the south-west to the place of beginning. This makes the outer rows. This work should be carefully done, so as to get the vineyard into regular squares.

"Then draw parallel cords north and south from the little sticks on the rows, which stand in the row between the north-west and the north-east corner, to the sticks in the row from the north-west to the south-east corner.

Across these parallel cords, which are fastened, the marking cord east and west, as in the annexed figure, is stretched cross-wise, and held there by a person at each end, while two or more hands put in the marking sticks at those places where the marking cord crosses each of the parallel cords. As soon as the sticks are put in at these cord crossings, and one row is formed, this cross, or rather marking cord, is removed and again held over another parallel cord, so as again to form another row, and so on to the end. The figure will illustrate this fully. Almost complete exactness is thus obtained."



Two points are to be considered in laying off a vineyard. The rows should always, if possible, be such as to receive the greatest effect from the sun, while at the same time avoiding the washing of the ground as much as possible.

Setting the Plants.—In establishing a vineyard, some time may be gained by setting one year old plants,—and one year old plants we should prefer to older ones, because few plants are injured more by removal from the nursery row than the grape, for without great care in digging, many of the roots will be lost, as their

tendency is to separate from the cutting or vine, at the base of the rootlet, and even taking with them a portion of the wood or bark of the parent vine, and these roots are not as readily renewed as on other plants and trees. When practicable, as a general rule, it is best to plant the vineyard where the vines are to stand. When planted two cuttings should be set to each hill. In doing this, the holes are sometimes made with a long, iron-pointed dibble, and sometimes with the spade; with the spade the work can be best executed. The hole should be dug on one side of the peg, so as to insert the cuttings in an inclined position, six inches apart at the bottom and one or two at the top, leaving the top eye or bud even with the surface of the ground; the holes should be filled with rich, mellow vegetable mould. If both cuttings grow, the second season one of them should be removed.

If rooted plants are to be used, only one need be set to a hill. The planting should be done with the same care that is bestowed on trees, always distributing the roots in their natural position as nearly as possible, and working the firm earth around them with the hand.

Time of Planting.—The planting should all be done in the month of April. If the season is favorable, it may sometimes be done as late as the 10th of May; but it is well to get through with the work before the approach of too hot weather, and in time to receive the early vines. The planting should never be done unless the ground is sufficiently dry to pulverize freely.

Planting the Cuttings in the Nursery.—If the ground is not in readiness for planting the vineyard, the cuttings should be set in nursery rows and remain until the following spring. This may be done to better advantage near the location of the vineyard, than to procure the sets from the nurseryman, which will require to be handled and transported a distance; as this is not always done with the care and attention necessary to insure complete success.

The ground for the nursery should be light and mellow, and prepared in the best possible manner by deep spading. A trench one foot deep should be opened and the cuttings set therein four or five inches apart, in an inclined position, on a line with the rows, leaving the top eyes just above the ground. The bottom of the trench should be filled with rich, mellow soil, and if the surface was well mulched with a coating three inches deep, of old straw or litter, it would increase the certainty of the growth of the cuttings. If not mulched, the ground should be kept free from weeds and well cultivated during the season.

The Home Circle.

MOTHER.

Mother! How shall we begin a theme so tender, so hallowed in every noble heart; so rich in holy remembrance! Shall I have my reader's heart? Will he go back with me and think about his mother? Will he recall her care, her watchfulness, her solicitude for his welfare, her vigils, her tenderness, her trials, her life spent in devotion to those she loved? Mother! We pity the man who can speak the holy word without emotion, without a thousand kindling feelings of tenderness. We pity him whose heart is not full of the recollections of her who bore him, and whose love is a great sunlight of strength and joy. To the great mass of men there is no word so sacred as Mother. It carries them back to the fresh, warm fountains of being; to the rosy hours of childhood, the season of sweet innocence, when their mother was their guardian and priestess, when she supplied all their wants and was ever their ardent, changeless friend, to the gay season of youth when she was ever watching, advising, assisting, feeding, clothing and toiling for them; when she entered into all their joys and sorrows, hoped and loved and prayed for them. When they think of her they live over these seasons in their memories. The past comes back again. Its rosy hours, its blessed innocence, its gay sports, its happy years return again. They see their mother in the bloom of life, giving her time, her energies, her mind and heart to them. They see her in her delight, as she presses upon them the caresses of maternal affection; as she rejoices in their health and joy, their developing powers and charms; as she watches them in sickness, sympathizes with them in sorrow, pities them in distress, wipes away their tears and bids them be happy. They see her in her trials when life was dark and dreary; when want's grim face stared on her and her little ones; it may be when poverty racked her form with toil, or neglect chilled her soul; or vice invaded her home; or disappointment blighted her hopes; or sickness paralyzed her being; or dark intemperance cast its palsying cloud over her prospects; or care weighed down her body and soul; and with these awful hours come back afresh her tears and toils, her doubts and prayers and all the burden that lay on her soul; and in them all are visible the depth and strength and beauty of a mother's love. A being who can love on through all trial and weakness and woe, must

be almost divine in the matchless power of holy love. As they look back in this retrospect of life they learn how great is a mother's love—what persistent energy of affection is necessary to bear her up under all the pains and cares and trials of maternity. Yes, we pity him who does not both love and reverence his mother. No matter if she was, and is in some things weak; no matter if her spirit chafes in its toils and her judgment sometimes fails her, and her worn soul wearies in her labor, in love she is strong, and will be till death, and through eternity, we believe. The mother never dies; she is enduring. Her spirit is born of God to live through endless years. Mother is a deathless thing.—Her love was not born to die. It has immortal virtue in it. It is pregnant with divine energies and life. When death cuts down the body and the grave wraps it away in kindly friendship, the spirit of the mother will still live. It is a deathless immortal thing, fresh and fragrant with undying beauty. It is kindred with God who is love. So do we respect, honor and reverence the mother. Let our tongue never lisp any evil, our pen never trace a disrespectful word, our heart never cherish an unkind sentiment, of her whom God has made to be a mother of a human spirit, a deathless, immortal soul. A pure, sacred and glorious thing is a mother's love. It has one peculiarity which I have ever observed in it which makes it so beautiful and sublimely worthy, it is its morality. It is always high and holy. It warns against vice. It teaches virtue. Its prayer is for piety and goodness. Its aspiration is for pure life and a good name. It breathes its yearnings for a good life around its infant prattler. It hallows the cradle with holy wishes. It overshadows it with moral benignity. It watches with sleepless vigilance the growing child. It sees that child enter upon its youth with a thousand solicitous anxieties for its moral well-being. Its eye follows it in all its outgoings and incomings. Her child's little aberrations from duty are wept over. His waywardness is his mother's misery. All mothers wish for the moral well-being of their children. Though they may have great defects in their own character, they are anxious that their children should be good. Men have many uncouth, hateful and wicked habits that they never learned of their mothers. Men swear and drink and chew and smoke; did they learn these things of their mothers? If men were as good as their mothers would have them, we should have a far better world. The mother is moral. The woman may be bad, but the mother is good. I never knew a mother wish

otherwise than morally well to her children.—The great burning wish of a mother's heart is that her child shall lead a virtuous and honorable life. I once saw a mother in a few minutes after she had learned that her little daughter, eight years of age, had told a falsehood. I thought I had seen misery before, but never saw I grief like that. It seemed as though the mother was bleeding on a rack of torture. The fear that her daughter might make a wicked woman, had taken possession of her soul. And such a fear! It shook her frame like an aspen leaf and gave utterance to such sobs of woe as are ringing in my ears yet. Once I heard a mother, who had reared eight children, say that she never knew one of them to tell a falsehood; and the joy that filled that mother's heart was as great as the misery that filled the other's.—Once I saw a mother who had just learned that her only son had, for the first time, been led by wicked or thoughtless companions, to drink from the intoxicating cup; and her features were wrought into an expression of such deep anxiety, that its picture hangs yet in the gallery of my soul. It is not the mother's labors and toils and sleepless nights and weary watchings and beautiful gifts and unselfish sacrifices, that speak so eloquently of her great love, to my mind, as her great anxiety for her children's moral good. How often have I heard mothers say in effect, "O, if I knew my children would make good men and women, ornaments to society, I could die in peace." This characteristic of a mother's love has taught me to reverence maternity. It is a holy and a blessed thing to be a mother. The name is a charm. The relation is a living beauty. It is embodied holiness—an oracle teaching the divinity of love. Show me a mother, and you show a shrine before which I bow in reverence. She may be weak, ignorant and wicked, but in maternal love she is holy. And I confess it freely, my reader, this feeling has been one of the greatest blessings of my life. It has been my shield and strength, ever inspiring me to shun what my mother disapproved, and do what I knew would be pleasing to her.

YOUNG MEN PAPERS—NO. 3.

Young men, what will you do? What occupation will you pursue? Farmer's sons often have an inclination to do something else—to engage in some other avocation than that to which they have been reared. Sometimes they are too much inclined to something else, and sometimes too much inclined to nothing. There is no better vocation than the farmer's; none

healthier, none surer, none more honorable, virtuous in its influences, or important to society. Young men will do well to consider the subject long and wisely before they conclude to adopt any other calling. But whatever be their conclusion, let them early choose a calling, a business profession. Let it be one within the scope of their powers—one agreeable and honorable. And let them fit themselves for it with all due diligence. It is business that makes men; men are not born, they are made, made by toil, by active employment, by industry and energy in their several callings. It is not the gifts of genius—of rare talent, nor the training of schools and academies, nor the knowledge gained from books, that make men great and useful, so much as the training given by the active pursuits of life. An intelligent, accomplished and successful farmer, mechanic, merchant or professional man, is great and useful. He does himself and the world a great good. And such men are made in all the pursuits of the world. Active business is the best school of life. A college is good, but a good business is better. A thorough, practical knowledge of any useful business is better than the diploma of any university in the world. Business makes more great and useful men than colleges. I have no word of disrespect for colleges. I know and appreciate their value. But for real importance they bear no comparison with the business school of life. The books of active business teach more effectual lessons than the books of the academy or college. All that schools can do is to prepare men for business. It is scarcely possible to over-estimate the importance of the leading avocations of men, such as agriculture, mechanism and commerce. There should not be a young man in the whole land who is not fitting himself for some one of the useful callings. There are many trades and professions, many kinds of farming, such as grain-growing, fruit-growing, stock-growing; many kinds of mining, engineering, commerce. A young man that cannot be suited among them all must be very stupid or very particular.

Look about you, young men, and choose your calling. Make up your mind to do something, and do it with all your might. Do not be a drone. Do not be a leech. Do not be a moth. Do not be a hanger-on at the tail end of society. Do not covet office, preferment, a windfall of wealth, as though you had not energy enough to head your own way up the current of life. Do not ask for appointment, nor beg for favor, nor hunt for some rich man's daughter. It is unmanly not to rely upon yourself, not to make

your own living, not to be engaged in some useful employment. Whatever you do, do it well. Learn to do something, and learn to do it well. If you covet wealth, a pleasant home, honors, health and happiness, you will find them in the wise and energetic pursuit of an honorable business. You cannot find them anywhere else. Then choose a business and prepare for it. Bend all your energies to it. Enlarge your knowledge of it. Be ambitious of success in it. Read, study, think, work, live for it. Be wide awake; be active; be a worker in it, and honors will gather thick and fast around you. *

Thanks to our fair contributor for the following valuable article. Herself a most accomplished farmer's daughter, who could be better qualified to write upon the subject she has chosen? The writer possesses one of the strongest and best cultivated minds in the country. We believe this is her first article, that has appeared in print, and we take pride in presenting to the public her first communication. We hope we may have the pleasure of numbering the writer among the regular contributors to our journal:

[Written for the Valley Farmer.]

EDUCATION OF FARMERS' DAUGHTERS.

Some one has given this admonition, "Let not poets or philosophers forget to be men."—There is, independent of rank and profession, a standard of manhood high and noble, to which every youth in the land may be pointed. There is, too, a standard of pure, true womanhood, and let every daughter bear its ideal in her heart as a measure to be filled. Let her not forget to be a *woman*.

It is not my intention to urge a special or exclusive training for the farmer's daughter. We are too apt to fancy the particular preparation necessary for particular duties or stations, sufficient for those who occupy them, and thus the education of so many professional men is narrow and superficial. There are some fundamental elements in our common nature, which must be cultivated as the ground-work of a true education. To every girl has been given the elements of a true womanly nature, and whatever sphere in life she may be destined to fill, she will be more useful and more happy, if all the capabilities of heart, mind and body have been cultivated.

Let the farmer's daughter be well instructed in all the arts of the farm-house, and let her practice them diligently.

This will provide for the culture of the physical powers, and will not weaken the intellect or dull the sensibilities. But these, too, must be

cultivated. I shall urge, then, that the farmer's daughter be *educated*, and not excluded from what are called the accomplishments.

I do not mean by this that it would be desirable that she should skim over the whole catalogue of branches taught in some "fashionable Seminary," learning the *names* of all the sciences under the sun, and a thorough disgust for them all, with just enough French, Italian, and Opera music, and withal, folly enough to make herself ridiculous by trying to "show off."—Sensible persons may well ask, what faculty of mind or soul could possibly be developed, or rather, what would not be perverted by such a course of systematic superficiality? But this is not *true education*.

There may be such an unfolding and cultivating of the mental, moral, and sensitive nature of the young, as will give strength and beauty to the character, and infuse into their hearts a love of knowledge, for its own sake, which shall endure, not only when school-days are over, but increase with years, and end only with life; and such a regard for right and duty as will lead them to strive, rather to be useful, than to be admired. Your daughter may study Botany, not merely as a set of meaningless terms, but as a science, which shall teach her to love Nature more, and find new beauties in every flower and leaf. Her hand may be skilled to sketch flower, or bird, or landscape, and thus bring the gentle ministrings of the spirit of beauty within your homes. She may learn music, not to shine in company, but to shed its sweet influence over the home circle, and gladden the hearts of loved ones. She may do, and love to do all these things, yet give no less careful heed to house-hold claims; its busy cares will allow her as much leisure for these quiet pleasures as the claims of society grant to the city lady; and you need not fear they will give her a distaste for domestic duties.

She and you will love home the better for the charm, the refined influences, which a cultivated mind will throw around it. ADELAIDE.

We take pleasure in welcoming a new contributor to the Home Department of our journal. The writer is a ripe scholar and a most estimable lady. We hope to lay her excellent communications before our readers monthly.

[Written for the Valley Farmer.]

THE PROPER USE OF TIME.

Few, very few of us, fully realize the real value of Time—fully estimate the intrinsic worth of its precious moments. By far the greater portion of mankind throw away its golden hours as

though they were valueless—waste their time, energies and noble powers in useless trifles, unholy deeds, or utter indolence.

Many are they who go down to the grave having proved a curse rather than a blessing to the world, from a want of understanding the great importance of Time and its proper use and distribution. How many men do we meet in all the varied walks and stations of life, who are unprincipled and worthless from this very fact! How many women useless and foolish! How many boys and girls are growing up in our midst without being taught the value and design of life, without any preparation for its great duties and responsibilities!

It has been well said that Indolence is the mother of Vice. Our large cities and towns attest but too clearly the truth of this adage. These things ought not so to be—need not so be. Upon the parent devolves the great duty of training the infant mind so that it shall grow naturally into usefulness, and prize Time according to its worth; and sadly will that parent regret who neglects this part of the education of his child. Better neglect any other than this.

A proper use and arrangement of Time, is indispensable to a well ordered, useful and happy home. There should be a time for everything, and everything in its time; a place for everything, and everything in its place; every moment should be filled with something conducive to the healthy development of the body, mind, or soul of its inmates. Children should have a time for work, a time for play and merriment, a time for study and a time for spiritual culture. Their little minds and bodies are full of activity—must be busy, and if they are not well employed, they will be illy employed. They may be taught, almost as soon as they can be taught anything, to do many little things for themselves and others. They should never be made to labor as a punishment for an offence; this will degrade it in their view, but should be taught to do it because it is the design of life and will elevate them—make them better and happier—thus will they learn to love it, grow into usefulness, a proper improvement of their time, and a desire to do good.

Let us as the various members of home, strive to realize the great worth of Time, and fill all its golden moments as they pass along in deeds of usefulness, and

"Count that day lost
Whose low descending sun,
Views from our hands,
No worthy action done."

St. Louis.

SARAH.

DOMESTIC RECEIPTS.

FOR SOFT GINGERBREAD.—Two eggs, half cup of sugar, a cup of Orleans molasses, half a cup of butter, a cup of warm water with a tea-spoonful of salaratus, and a table spoonful of ginger.

GOOD YEAST.—Boil one pound of good flour, a quarter of a pound of brown sugar, and a little salt, in two gallons of water for an hour; when milk warm, bottle and cork it close. One pint of this will make eighteen pounds of bread.

TO IMPROVE THE WICKS OF CANDLES.—First steep the wicks in a solution of lime water, in which saltpetre has been dissolved. To 1 gallon of water add 2 ounces saltpetre and 1-4 pound of lime. Dry well the wicks before using. It improves the light, and prevents the tallow from running.

IMPROVEMENT IN SOAP.—The wife of an American agriculturist has been experimenting on soaps, and finds that the addition of three-quarters of a pound of borax to a pound of soap, melted without boiling, makes a saving of one-half in cost of soap, and three-fourths the labor of washing, and improves the whiteness of the fabrics; besides, the usual caustic effect is thus removed, and the hands are left with a peculiar soft and silky feeling, leaving nothing more to be desired by the most ambitious washwoman.

BUCKWHEAT PORRIDGE.—Take a quart of rich milk, and after boiling it hard, stir in as much buckwheat meal as will make it of the consistency of thick mush, adding one tea-spoonful of salt and a table-spoonful of fresh butter. In five minutes after it is thick enough take it from the fire. If the milk is boiling hard, and continues to boil while the meal is being stirred in, very little more cooking will be required. It should be placed on the table *hot*, and eaten with butter and sugar, or with molasses and butter. This is sometimes called a five-minute pudding; it is excellent for children as a plain dessert, or for supper. Some add a seasoning of ginger or grated nutmeg before sending it to the table.

CUP CAKE.—The ingredients are as follows: One tea-cupful of butter, two tea-cupfuls of sugar, three tea-cupfuls of flour, one-half tea-cupful of milk, four eggs, and nearly a tea-spoonful of salaratus.

Those ladies who wish to see their "lords" wearing nice, glossy shirt bosoms, will do well to observe the following receipt: Take 2 ounces of white gum arabic, powder it in a pitcher and pour on a pint or more of water, according to the degree of strength you desire, and then having covered it, let it sit all night. In the morning pour it carefully from the dregs into a clear bottle, cork it, and keep for use. A table spoonful of gum water stirred into a pint of starch made in the usual way will give to lawns, either white or printed, a look of newness, when nothing else can restore them after washing.

Editor's Table.

OUR EXCHANGES.

We cannot find words to express the obligations we owe to our exchanges for the kind and cordial manner in which they have spoken of the *Valley Farmer*, and for the generous support which they have extended to our enterprise.—We thank you, one and all for the kind words you have said in our behalf. It shall be our constant study to make the *Valley Farmer* such a work as the farmers most need and to furnish such a journal as you recommend it to be—so that your confidence may not be misplaced.

GEOLOGICAL SURVEY OF MISSOURI.—We are indebted to our able and efficient State Geologist, Prof. G. C. Swallow, for a bound volume of the Reports of the Geological Survey of Missouri. As soon as we get time we shall examine the volume and lay before our readers whatever will be of interest to them.

MADDER.—One of our subscribers desired us to furnish an article on the cultivation of Madder. We prepared the article for the March No., but as it is somewhat lengthy, we have been compelled to defer its publication till our next issue.

NEW PLOW HANDLE BENDING MACHINE.—On the 22d of January last, a patent was granted to Benjamin F. Avery, Esq., of Louisville, Ky., for bending plow handles. We have seen a variety of wood bending machines, and have witnessed their operation, but for simplicity, cheapness, and perfect operation this excels anything of the kind that is now in use. Mr. Avery has been some time in bringing it to the present state of perfection. It is operated by one man, who shaves and bends the handles with astonishing facility, rarely ever breaking one. This, though a simple machine, is a highly valuable one to that branch of manufacturing, in which Mr. Avery and others are extensively engaged.

HON. J. H. LIGHTNER, late member of the Missouri Legislature from the city of St. Louis, has our thanks for several valuable public documents, and among them a copy of the Reports of the Geological Survey of Missouri.

WYANDOTT CORN.—We have received numerous applications from our subscribers for this corn. We are unable to obtain any for this season. Another season, however, arrangements will be made to supply all who may desire it.

MEETING OF THE ST. LOUIS AGRICULTURAL AND MECHANICAL ASSOCIATION.—The Corporators of the St. Louis Agricultural and Mechanical Association met this day (Feb. 4, 1856,) pursuant to a notice given through the newspapers, at the office of J. Barritt, Esq. Present, Messrs. A. Harper, H. C. Hart, Thos. T. January, John Sigerson, Thornton Grimsley, John Withnell, John Hartnett, and Gerard B. Allen.

The Chairman stated the object of the meeting to be the organization of an association, "for the purpose of promoting improvement in all the various departments of agriculture, including, not only the great staples of industry and trade, but also fruits, vegetables and ornamental gardening, and the promotion of the mechanic arts in their various branches, the improvement of the race of all useful and domestic animals, the general advancement of rural economy and household manufactures, and the dissemination of useful knowledge upon these subjects."

On motion of Mr. Sigerson, a committee of three was appointed to draft a Constitution and by-laws for the government of the Association.

The Chair appointed Messrs. Hart, Grimsley and January on this committee.

Mr. January offered the following resolution, which was unanimously adopted:

Resolved, That the capital stock of this company shall be \$50,000, to consist of shares of \$50 each, and that the Chairman appoint a committee of four, of whom the President shall be one, to open books for the subscription of said stock at such place as they may select, on or before the 15th of this month, notice of which shall be given in two of the city papers.

The Chairman appointed Messrs. January, Hartnett, Grimsley and Harper on said committee.

On Motion of Mr. Sigerson, the meeting adjourned to meet on the 16th proximo at the same place.

IMPROVEMENT IN PLOWS.—On the 8th of January, a patent was granted to Mr. Avery, for an improved method of locking together the various parts of the kind of plow which the inventor is exclusively engaged in manufacturing. These improvements are not only important to the trade and manufacturers of the city, but to the farmers of the country, as another step towards the perfection of that most important of all farm implements, the plow.

OSAGE ORANGE HEDGES.—We have an article in preparation on this subject which will appear in our next number.

GIVE US CREDIT.—We notice that some of our exchanges have copied articles from the Valley Farmer and given it no credit for them. Now, gentlemen, we want nothing but what is fair, but we do think, that when original articles are taken from our journal, that have cost us much time and labor, that proper credit should be given. We ask nothing more from you than you would ask from us, in a similar case. We could specify names, but will not, as the neglect to give us credit might have been unintentional.

☞ We hope our correspondents will be patient. We have received many valuable communications which we shall publish as soon as our space will permit.

☞ We acknowledge the receipt of a basket of some of the finest specimens of winter apples that we have ever seen, from E. B. Coleman, Esq., of the Peoria Nursery. We are glad that editors are not forgotten in these pinching times. Mr. Coleman has a depot for the sale of his fruit trees, plants &c., at No. 19 Market street, St. Louis, Mo. See advertisement.

☞ Our acknowledgments are due Hon. J. S. Phelps for a copy of the Patent Office Reports for 1854.

BRINLEY'S PREMIUM PLOW.—We call attention to the plows advertised in our advertising sheet, by T. E. C. Brinley & Co., of Simpsonville, Ky. Mr. B. has labored long to improve the plow, and has brought the kind he manufactures to a great degree of perfection, as the numerous trials with others abundantly prove.

DEATH OF DR. THADDEUS W. HARRIS.—The Boston papers announce the death of Thaddeus W. Harris, Librarian of Harvard University, which office he had filled for many years, with untiring ardor to the interests of the library. In his death the agricultural interests of the country sustain a great loss. He has distinguished himself as a Naturalist—having done much in the dissemination of a knowledge on the subject of Entomology. He was the author of a most valuable work on "Insects Injurious to Vegetation," which has been published by the authority of the state of Massachusetts.

Spring Exhibition and Sale of Horses at the Fair Grounds of the Southwestern Agricultural and Mechanical Association.—A grand exhibition of horses is to take place at the show grounds near Louisville, beginning on the 13th day of May, 1856, and continue three days. These stock sales are to be continued monthly.

A MUCK MANUAL FOR FARMERS.

A Treatise on the Physical and Chemical Properties of Soils; The Chemistry of Manures; Including also the Subjects of Composts, Artificial Manures and Irrigation: By Samuel L. Dana. Fourth Edition, with a New Chapter on Bones and Super-Phosphates.

Perhaps no work which has been written in this country has conferred more real benefit on the Agricultural interests of the older sections of the Union, where the lands have been exhausted by a long-continued practice of injudicious cropping, than the *Muck Manual*; and the doctrines it teaches are no less important to every farmer upon the rich soils of the West. It is an old adage that an ounce of prevention is worth a pound of cure. Unless the Western farmer possesses some knowledge of the chemical combinations of the soil he cultivates, and of the crops he produces, and adopts a proper system of rotation and manuring, his lands, like those in the Atlantic States, will be reduced to the same condition of poverty, and will require a heavy outlay of capital to again restore them.

Dr. Dana is a practical chemist of over a quarter of a century standing, and in the application of that science to practical agriculture, he has conferred a lasting blessing upon the farmers of the country. In the preface of the present volume, in remarking on the mineral and vegetable constituents of the soil, Dr. Dana remarks of the vegetable portion:—"I have endeavored in the following pages to set forth the high importance of determining the state and condition of this; to show that its presence in the soil is of the utmost consequence, and that without it, full crops are not to be raised."

The work is published by C. M. Saxton & Co., New York. Price \$1.00 by mail free of postage.

ACKNOWLEDGEMENTS.—To the conductors of the Press, in general, and to those in Kentucky in particular, we return our most hearty thanks for the many kind and flattering notices of us, and of the enterprise in which we have embarked. We hope their encouragement and good wishes may not be lost to the Farmers of the West. E.

☞ The extensive and unexpected patronage and encouragement the *Valley Farmer* has received from the merchants and citizens of Louisville, we regard as not only complimentary to the editor, but encouraging to the farmers of Kentucky. The substantial evidences of their appreciation of our labors will encourage us to increased efforts to render each succeeding number of the work better than its predecessor, and just what the Western Farmer needs, an Agricultural Paper second to none in the country.

NEWS DEPARTMENT.

By the latest news from Europe, we learn that propositions for peace have been entertained by all the belligerent powers, and that the prospect is that peace will be restored. It is strongly affirmed that the conference will be held at Paris.

Since our last issue, the Hon. N. P. Banks, of Massachusetts, has been elected Speaker of the House of Representatives of the U. S.

Hon. Wm. Cullom, of Tennessee, Ex-member of Congress, has been elected Clerk of the House of Representatives.

Hon. Geo. M. Dallas, of Pennsylvania, has been appointed and confirmed Minister to England and is now in Washington receiving his instructions preparatory to sailing. Hon. James Buchanan, whose place he will fill, announces his intention of making a two month's tour on the Continent, before returning.

Gen. Cass was seriously injured by a fall on the steps of the Patent Office recently.

Ex-Governor Walker, of Mississippi, recently died in New Orleans.

DEATH OF JOHN H. MANNY, INVENTOR OF MANNY'S REAPER.—Our readers will regret to learn of the death of John H. Manny, inventor of the celebrated Manny's Reaper, which recently occurred at Rockford, Ill. Consumption for some years had been preying upon his system, and at the early age of thirty years, in the prime of life, he is removed from this earthly tabernacle. But he has left behind him the works of his enterprise and genius—his celebrated Reaper—which engaged so much of his thought and attention, to aid, not only the farmers of to-day, but of all time to come.

The suit which had been pending for some time between Mr. McCormick and Mr. Manny was decided before his death in his favor.

The points decided by the Judges of the U. S. Court, were as follows:

1st. That Manny's reaping machine does not infringe on any of McCormick's patents.

2nd. That the divider and reel post used in Manny's machines are not the same, in form or principle, as the improvements patented by McCormick in 1855, and is no infringement.

3d. That the forker's stand or position, on Manny's machine, is a new and useful improvement, invented and patented by John H. Manny, not covered by McCormick's patent, but is different in form and principle, and is therefore, no infringement.

IMPORTANT DISCOVERY.—Jean Blanc, of New Orleans, represented to be an agriculturist of considerable scientific attainments, has secured letters patent from the United States, for the discovery of a process for converting thirty different varieties of plants, which grow wild in enormous quantities in various sections of the Union, into flax of great strength and beautiful texture. Specimens of the flax and of the plants from which it is made, are on exhibition at the office of Walter E. Harding, in New York. Among the most interesting of the specimens, are the flax made from the stocks of the cotton plant, large quantities of which are burnt on the Southern plantations to get them out of the way; the century tree, or wild Manilla, which grows in abundance

in Florida; the wild hollyhock, with a fibre ten or fifteen feet long; the gold nankeen, of a natural nankeen color; the vegetable silk and the vegetable wool. The process of preparation, we understand, is simple and effectual, preserving all the strength of the staple, and so economical that the flax can be sold at prices far below those at which the article is now sold.

A bill has been reported in the Senate of Virginia providing for the erection of a plain tomb of granite or marble over the grave of James Madison. It is a somewhat singular and mortifying fact that up to this time no stone has marked the place where rest the mortal remains of this illustrious man. Should the tomb be erected, it will bear the following inscription: "James Madison, born March 5, 1751, (O. S.); died 28th June, 1836. Virginia marks with sincere affection the grave of her son, the author of the federal constitution, the patriot and statesman."

FARM PRODUCT MARKETS.

LOUISVILLE MARKET.

LOUISVILLE, March 26, 1856.

Flour \$7 per bbl. Wheat, \$1 25. Corn 30@33 cents. Oats 27 cents. Lard 9c. Bacon hams 9c. Clear sides 9@9½c. Ribbed side 8½c. Shoulders 7½c. Mess pork \$15@15 50 per bbl. Hemp seed \$1 25. Orchard Grass seed firm at \$2 00. Beeves—first quality \$3 25@3 60. Hogs 4½@5c gross.

ST. LOUIS MARKET.

ST. LOUIS, March 26, 1856.

Flour \$7@7 50. Wheat \$1 35@1 37½. Corn 45c. Oats 35@40c. Potatoes \$1 20@1 50 per bushel. Butter, good Ohio, 25@30c. Cheese, prime, 11@12c. Eggs 30c per doz. Feathers 35@38c per lb.

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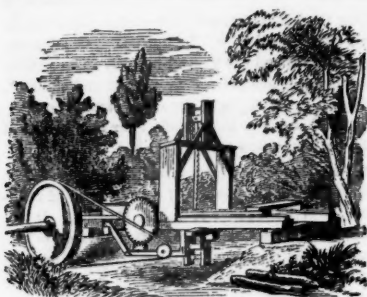
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THE NEW PATENT SAW-MILL.

FRAZEE'S Patent Upright Saw Mill, was invented by Mr. Benj. Frazee, an experienced mechanic, for which he received letters patent, dated October 18, 1853, since which time nearly one hundred of them have been put in operation in different parts of the United States, and their value and efficiency thoroughly tested by practical experiment. It has been examined by hundreds of the best mechanics and machinists in the country, and it has been admitted by all that for cheapness, durability and efficiency, it is far superior to anything of the kind ever before produced, and that it must eventually take the place of nearly all the mills now in use. We purpose in this paper to give a plain statement of its construction, its advantages, prices, and all particulars which those interested would wish to know before purchasing.

ITS CONSTRUCTION.

It is composed of eight pieces of timber, from five to eight feet long, four pieces of plank from four to six feet long, and about fifteen hundred pounds of iron, beside two long bed pieces, a carriage, some small wooden fixtures, pulleys, etc. The common up and down saw, six and one-half or seven feet long, is used without sash-gate or muley, and will saw timber of the largest or smallest size. It is so very simple in its construction that it has but few bearings and consequently but little friction, and will therefore require much less power to drive it than the more complicated mills now in general use. As much of the cumbrous machinery of other mills such as large heavy frames, sash-gates, etc., is dispensed with in this, it is much less liable to get out of order; while its simplicity enables any one of ordinary mechanical ability to repair or build it. The amount of repairs required with fair usage is of insignificant import. Another advantage of this mill is that its work is superior in smoothness and straightness, and that it cuts away less of the lumber than most other mills. The motive power usually sold with it is a simply constructed yet efficient and durable portable steam engine of ten horse power, with cylinder from seven to eight inches in diameter and

fifteen inch stroke, together with locomotive boiler about twelve feet long, with thirty-two inch tubes six feet long. The front or fire-box is three and one-half feet in diameter and four feet long. The front and tubes are all heating surface. The engine and boiler together weigh about 4,000. They are constructed especially for this mill, and are of requisite power to drive it with sufficient rapidity to cut over six thousand feet of ordinary inch boards in every twenty-four hours. We supply larger engines and boilers with the mill, or sell the mill without power, when desired. The whole affair, as shipped by us, can be at work in one day after it is received at any given place.

ITS PORTABILITY.

One great point of superiority in the mill is its portability—the ease with which it can be moved from place to place, taking the few pieces with which it is composed to the logs, instead of hauling the logs from long distances to the mill. This fact, in regard to the mill, renders the purchase of it, in all cases, a safe investment, as it will always be saleable property. The whole establishment weighs about 6,500 pounds; and with three ox-teams, can be easily moved at the rate of from thirty to forty miles per day. Thus, when it has done its work at one place, it is ready to move on, either upon the mountains, in the valleys, or wherever the forest may require its labor.

HOW MUCH IT WILL DO !

Any one of these mills, with eight horse power to drive it, is capable of cutting over six thousand feet of ordinary inch boards in every twenty-four hours. It may be made to do much more than this, by an extraneous effort; in fact, one in operation near this city, driven only by a five horse power, has frequently been timed by a watch, and made to saw at the rate of nine hundred feet per hour. Allowing it, however, to cut but three thousand feet per day, it will at once be perceived by all who are experienced in the business, that in efficiency it has no equal.

PRICES.

We furnish these mills with bolts, screws, belting, forty-eight feet of segments for carriage, and everything all complete, excepting two long bed pieces and the carriage; also engines and boilers all complete, at the following prices:

For Mill without power,	\$ 450 00
“ with ten horse power,	1250 00
“ “ twelve “	1800 00

The segments we furnish for carriage are sufficient to saw timber twenty-four feet long, but when it is desirable to saw timber more than that length, an extra charge will be made for extra length of segments. A draft carefully explained and numbered, will be sent with each Mill, so that the parts may be readily and accurately